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The peaceful agrarian scene reproduced above is taken from Mr. Paul Rotha's film *The Face of Britain*. It was chosen as an appropriate frontispiece to the August number of the JOURNAL because of its lazy, peaceful air and complete freedom from any buildings. Mr. Paul Rotha's film is designed to show the effect of the development of the electric grid system upon the national landscape. Throughout the film Nature is shown as the background to all the works of man—roads and railways, houses and factories—and in this "still" we get a glimpse of that background, which to the eye has remained unchanged by the march of progress. There are no railway cuttings, no telegraph posts or pylons; only trees and fields and the hedges that first enclosed them centuries ago.

JOURNAL OF THE
ROYAL INSTITUTE *of* BRITISH ARCHITECTS

VOL. 42. 3RD SERIES 10 AUGUST 1935 No. 18

Journal

The honour of a K.C.V.O., which His Majesty has conferred on Mr. Walter Tapper, R.A., is a well-deserved token of his distinguished services to architecture and particularly of his skilful work of preservation in King Henry VII's Chapel at Westminster Abbey. Sir Walter, who was elected to full Academician rank earlier this year, was President of the R.I.B.A. in the 1927-8 and 1928-9 sessions.

All A.A. students and past students, who have worked under Mr. Howard Robertson or known the school during the time he has been associated with it will have heard with regret of his decision to retire from the Directorship of Education at the School next December. Mr. Robertson succeeded Mr. Atkinson as Director of the School in 1929, and, in all, has been teaching there for sixteen years. It is an inevitable effect of our system of architectural education, in which the teaching is done by practising architects, that from time to time the demands of practice take the best masters from the schools. However regrettable this may seem to be from some points of view, it is an obvious compliment to the teachers that they should be able to prove their ability to practise what they preach. It adds to the confidence of the students in their teachers, and is a sign of life and reality in the whole system that we cannot afford to lose.

The Music Group of the R.I.B.A. Social Committee has purchased a number of subscription tickets to the series of six Courtauld Sargent concerts which are being given at the Queen's Hall this winter. The dates of the concerts are as follows, each concert being repeated on Monday and Tuesday evenings: 14 and 15 October, 11 and 12 November, 9 and 10 December, 10 and 11 February, 9 and 10 March, 30 and 31 March. The concerts include a wide range of orchestral and choral work, and the conductors will be George Szell, Bruno Walter and Malcolm Sargent.

The price of a ticket for the series at the specially reduced subscription rate is 12s. There are still four tickets left in the R.I.B.A. block. Will anyone wishing to take them please write to the Secretary of the Music Group, c/o R.I.B.A. without delay? Full programmes can be obtained either from the Queen's Hall or from the Secretary of the Music Group.

A new series of the *Questions and Answers* supplement starts with this number of the JOURNAL, and as readers will notice, some changes have been made in the lay-out of the pamphlet so as to increase its legibility and make it easier to file by providing a wide inside margin. These notes represent the day to day experience of the Building Research Station and consequently give their readers immediately the benefit of the vast experience possessed by the Station. No one can even glance at the Notes without realising how direct is the approach to building science made by the Research Station. Much of the Station's work is properly an elaborate and lengthy scientific study of methods and materials which in its neat scientific form is probably above the heads of nine-tenths of the profession, who in part will not and in part, for very good reasons, cannot, pretend to any real scientific understanding. But all the Station's work is objective: it is aimed at the improvement of the quality of building. The presentation of their knowledge in answers to direct questions is the most obvious testimony which any architect can appreciate, to the realism of the Station officers. Although the notes now published are in a new series, an index having closed the first and second series, the actual numbering of the paragraphs is continued from the second series to facilitate indexing.

The Ministry of Health has published a pamphlet on the preparation and bringing into operation of schemes under the Town and Country Planning Act, 1932. The Pamphlet is a guide to planning consultants and authorities so that the process of preparing a scheme and bringing it to the final stage may be expedited and the quality of planning improved by all concerned having full understanding of the process required by law. For many years this country has possessed planning laws which make it possible for all authorities in the country to assure that development in their areas is controlled. The process is necessarily slow because under the British system planning by agreement has always been preferred to planning by compulsion. Planning by agreement means of necessity a long period of negotiation and the application of safeguards. There are actually five major stages through which any planning scheme must pass before it becomes operative. They are as follows:—(*a*) Preparation of the scheme by the planning authority ; (*b*) Submission of the scheme to the Minister ; (*c*) Laying

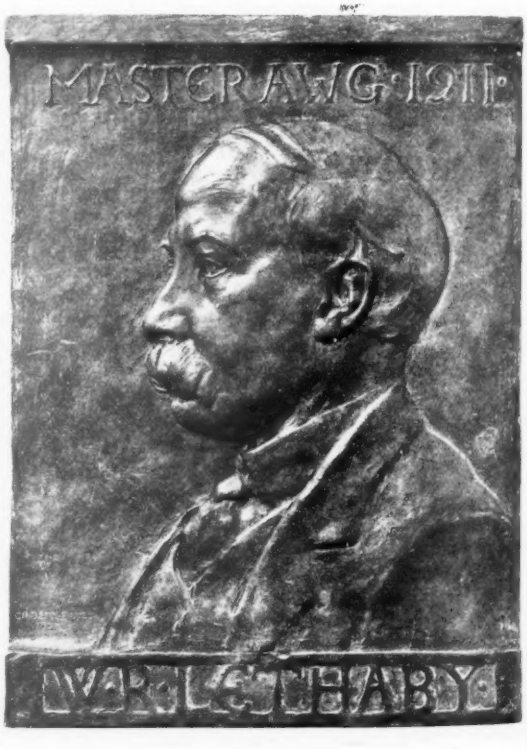
before Parliament for a period of 21 days; (*d*) Opportunity to question validity before the High Court; (*e*) Operation.

The Ministry of Health pamphlet enlarges on the work to be done in each stage; it describes the various ways in which authorities can co-operate to form a "planning unit," then outlines the various subjects of planning which must be taken into consideration before a resolution to plan is passed. The resolution to plan is the first formal step after the co-ordination of the authorities into a planning unit. A review carried out on the lines suggested by the Ministry should provide the authority with an objective base on which to build the provisional foundations of their scheme. Similarly each stage is clearly and briefly described. In the past, particularly under the old Act which operated before the 1932 Act was put on the statute book, there were intolerable delays in all stages, which resulted, in some cases, in almost a complete hold up. Innumerable authorities never passed beyond the first stage of resolving to plan. To a certain extent this was due to the natural ease with which good resolutions can be formed, particularly under statutory compulsion, without any real intention behind the resolve; particularly is this so when the resolution is concerned with a subject like planning, which cannot be implemented without expense and hard work and the risk, always present in the minds of local authorities, of interfering with local interests. In 1932 a note in these columns showed that whereas at that time seven and a half million acres of the thirty-seven million acres in England and Wales had been covered by resolutions to plan, only seventy thousand acres had passed to the final stage of an approved plan ready for application. It was certain that only a fraction of the schemes covering the seventy thousand acres had actually been carried into operation.

The June figures for this year show that almost fifteen million acres are now covered by resolutions and one hundred and fifty thousand acres have schemes past the final stage. There is considerable improvement, but the situation is not so good as to relieve from anxiety the authorities and those eager to see a planned countryside. The pamphlet can be obtained from His Majesty's Stationery Office or its agents for sixpence.

In 1930, a body called the Architectural Graphic Records Committee was formed by the R.I.B.A. and various other organisations to compile an index of architectural prints and drawings for the use of architects, antiquaries, historians and writers. The uses of such an index are almost limitless, and are as great on the practical as on the purely scholastic side. The chief architectural use is probably as a guide to the existence of drawings which architects need when making restorations, but it will also serve the needs of historians and antiquaries and journalists and will indirectly be the means of assuring that architectural documents of value are properly preserved where they can be consulted. The compilation work hitherto has been done by workers under the R.I.B.A. unemployment scheme, and latterly, since the termination of the scheme, by voluntary workers, mostly members of the Committee. In this way records relating to some 20,000 prints and drawings have been drafted. The Committee recently made an appeal for funds to enable them to bring the work already done to its proper conclusion by having the entries typed on to cards for filing and public reference. The R.I.B.A. has given a grant of £20. From other sources, institutional and private, about £60 more has been received or promised. As soon as the A.G.R.C. has £100 work will proceed. Any member who is interested in the index, and particularly those who are so interested that they might subscribe to the Committee's work, are asked to communicate with the Secretary of the A.G.R.C., Mr. F. H. Mansford [*F.*], 15 Kingsend, Ruislip, Middlesex, or with the Treasurer, Mr. G. H. Palmer, 18 Beauchamp Road, E. Molesey.

The photograph at the foot of this page is of a bas-relief of W. R. Lethaby which was modelled by Mr. Gilbert Bayes and which has been presented by him to the R.I.B.A. It has been placed in the lobby to the Library Periodicals Room.



SCENERY-DESIGN BY INIGO JONES
From the Salvin Collection in the R.I.B.A. Library

THE STAGING OF EIGHTEENTH-CENTURY DESIGNS FOR SCENERY

BY RICHARD SOUTHERN

ONE of the most characteristic features in the history of theatrical scenery is the tremendous burst of energy by which it sprang within a few score years to the full development of its technique from a humble beginning as a fanciful decoration for court masques.

To such a high degree of efficiency did the designers attain about 1700 that their methods could not, until a few years ago, be said to be anything but a mystery to us. And still to-day the drawings of the Bibiena family generally inspire many regretful sighs and the statement that we can never fathom the technical principles by which their magnificent architectural visions were reduced to the limits of theatrical scenery and set upon a stage.

Certain discoveries, however, of recent years have brought to light solutions of some at least of our difficulties. The articles of William Grant Keith on the methods of Inigo Jones and John Webb have been of considerable value, and the attention called by Professor Allardyce Nicoll to Filippo Juvarra's book of theatrical drawings in the Victoria and Albert Museum has brought further clues. And following in the trail of these excellent pioneers even more details of interest can be found.

The first of these discoveries, let me say, gives us

the necessary confidence to advance to the others with some assurance that the line taken is one for which a very good case indeed can be made out.

The difficulty, for the solution of which it offers a suggestion, is mentioned in Mr. Keith's article in the *Burlington Magazine* for May 1914, where he treats of "Designs for the first movable scenery on the English public stage." He discusses there John Webb's designs for the scenery of "The Seige of Rhodes," and calls attention to the two types of scene, the "Shutter" and the "Sceane of releive," whose distinction is now fairly well established. The shutter scene occupied the normal stage and consisted of the usual wings, framing a backscene, which divided centrally into a left and right half; and when these two "shutters" were drawn aside there was exposed beyond another scene, the "releive" or "scene in relief" as Mr. Keith calls it.

This opening of the pair of shutters was the method of transference from the first scene to the second ("of releive"); and upon the closing of a different pair of shutters transition was made to scene 3. Thus the full succession of scenes in a play followed on without a break, and the drop-curtain or "tabs" was never used, save to unveil the stage at the beginning of a show.

Now as to the construction of these "scenes in relief," situated at the back of the stage, Mr. Keith offers the suggestion that their foreground, or that part coming directly behind the shutter grooves, was "probably cut out on the first 'releive' frame," while the middle distance and background "might have been painted on the second one." (Mr. Keith does not define his word "frame.") He adds: "Various schemes of arrangement would be feasible in a stage of this nature, and it is quite possible that the backcloth might have entered into the composition of these scenes."

To a practical scene-designer such a suggestion reads at once as an arrangement of groundrows and backcloth.

Now a groundrow, in stage parlance, is a long low piece of scenery stretching across the stage, and it has, as an essential feature, a profiled top edge. But if we lacked any evidence of the use of such profiling in John Webb's time we should be hesitant about considering his "releives" as groundrows. Such evidence, however, is available in this form:—

On the back of a drawing by Inigo Jones, for whom Webb worked (the drawing is numbered 286 in the Walpole and Malone Societies' catalogue), there is the following note:—

". . . For ye Masques the Mr. Carpenter for ye stage shutters & cloudes— 12.
and putting bourdes togeather for sceanes of releaue . . ."

. Now, that the wings and shutters were of canvas stretched on an open wooden framework we have very good reason to suppose; what then is the purpose of "putting bourdes togeather for sceanes of releaue"?

The suggestion comes at once to mind that these "releaues" were made of board *in order to be cut out*, with a saw, to a special shape.

Once a stage method is adopted it stays for many years in the inherited tradition of the succession of Master Carpenters, and it is, therefore, with no inconsistency that we can offer, in substantiation of the above idea, this note from a book on *Scene Painting*, by F. Lloyds (a painter to Kean), published in 1875.

"I must now explain how profile is made. Procure a few boards of good deal, with as few knots in them as possible, each a quarter of an inch thick, 11 inches wide, and 12 feet long, rough planed on each side, and carefully at the edges where they have to be joined. Three of them should be laid flat on a sufficiently large bench, and the edges joined together with some good glue. This being dry some cork canvas, or scrim canvas, as it is sometimes called, which can be had wherever the canvas was bought, must be glued on to the boards. . . . Then after cutting off the spare canvas turn the boards over and canvas the other side in the same way. . . . When dry prime them on both sides with good stout priming and you will have what is called a sheet of profile ready for use."

The "boards" whose edges "have to be joined" to make a "sheet of profile" suggest very clearly the "putting bourdes togeather for sceanes of releaue." And I would add that the word "sceane" then signified a "piece of scenery" as well as the subdivision of a play, or the complete effect on a stage.

A piece of profile, then, of a suitable size could be rebated into the edge of the framework of a flat, wherever a painted detail projected beyond the limits of the flat, and cut to the outline after painting.

The use of a groundrow presupposes the use of a backcloth or skycloth behind it, and we have no difficulty whatever in finding that Inigo Jones not only used backcloths but called them by that name and wrote the name clearly upon them in his drawings (for instance, that for the set for Habington's *Queen of Aragon*, W. & M. No. 361).

I am very strongly of the belief that the backcloth was a skycloth pure and simple, that is to say that no landscape was painted upon it and that it stood

throughout the play with various "sceanes of releaue" placed before it. If that is so then we have the cyclorama setting of to-day complete (in principle at least) save for that important element—the powerful electric lighting.

However that may be, the point of direct importance here is that profiling was used, and that the edges of scenery—either vertical flats or horizontal groundrows—could be cut.

With this knowledge we turn now to the next point concerning eighteenth-century scenery itself. If the carpenter made his scenes of profiled flats how then could the elaborate architectural phantasies of the Bibienas have been staged?

In the Victoria and Albert Museum is a drawing which to my knowledge has never been published and which contains the most vital information on this point.

The drawing (plate 1) is by Angelo Carboni and represents the stage-right side of an elaborate rococo architectural setting on the lines of the Bibienas. But the extreme interest of the drawing lies in the diagrams at the side, where certain rectangles are represented, each provided with a distinguishing letter and a note of its dimensions. Their importance I will discuss in a moment.

Angelo Carboni, who signs and dates his drawing (1758), appears to have been an Italian who visited Russia when the princes and dignitaries of Europe were all vying with one another in their handling of this new toy of theatrical scenery and scenic presentation in their private theatres, and were anxious to secure all direct information possible from the fountain of the new form—Italy.

To Oranienbaum then, 40 miles from St. Petersburg (as it was to Carboni), came this Italian to help with the scenery in the castle theatre, and the drawing he made suggests an endeavour to explain to the Russian carpenters how to translate the noble columns it portrays into scenery. Beneath the drawing is a scale of "5 Arshine according to the measure of St. Petersburg" (the *arshine* is equivalent to 28 inches), and the first arshine is divided into 16 parts. The Russian measurement of a *vershock* is 1·75 inches, which multiplied by sixteen gives us our arshine and a basis on which to work.

A close inspection of the drawing shows that certain pieces of scenery are marked with letters corresponding to those that distinguish the diagrams at the side. Let us begin by taking the first of these diagrams, labelled A, and examine its relation to that part lettered A in the drawing. The result is of great interest.

Upon the drawing the letter A can be distinguished near the bottom edge directly above the last but one division in the scale of arshini. It is written on the pedestal of two columns, and as our eye follows them upward we notice that in the space between them is the letter B. If now we turn to the diagrams beside we find that that labelled A is represented as having a smaller rectangle within it. Now if dimensions tally we can take this to be a cut-out space in flat A through which flat B can be seen.

If on a sheet of tracing-paper we make a drawing of diagram A, according to the scale, making its base equal to 1 arshine on the scale and its height 3 arshini, 12 vershocki and so forth, according to the diagram, and then lay the tracing-paper upon the drawing, we find that the drawing is also made to scale and the rectangle fits exactly the shape of the two columns from floor to cornice, leaving certain details projecting that I have no doubt were applied to the framework in profile-board and cut out. (Which is exactly the method used in the Victorian theatre that Lloyds describes and in the theatre of to-day.) (Plate 8 A.)

Further we notice (as a detail) that a third column is represented between the other two and that the central slit allowed in the diagram is not between the two columns that jump to the notice but between the inner side of that on our right, and the inner side of a third column half-hidden by that on our left. Also the framework of the flat takes no account of the vase standing between the columns but cuts right across it. The vase then was to be cut in profile-board and attached to the square frame. (This and the following arrangements are illustrated on plate 8.)

Now the chief interest of all this is that it disposes of the idea that such scenes were represented by means of a succession of cutcloths. Such a theory would always be under suspicion, for details like the projecting moulding at the top of the columns are not in terms of cutcloth technique, where all projections must be supported from above, not from the side, else that piece of cloth droops or curls over with its own weight. Moreover, the cutcloth idea ignores the whole construction of the floor of the eighteenth-century stage as we shall see later.

If we investigate further in plate 1 we find an interesting point about flats B and H. (H is visible to the spectator's left hand of the two columns.) In the diagrams these two flats are exceptions to the general rectangular shape, and the superposition of a tracing-paper scale-drawing of each in its proper place shows us that the sloping tops are designed to coincide with the perspective representation of the

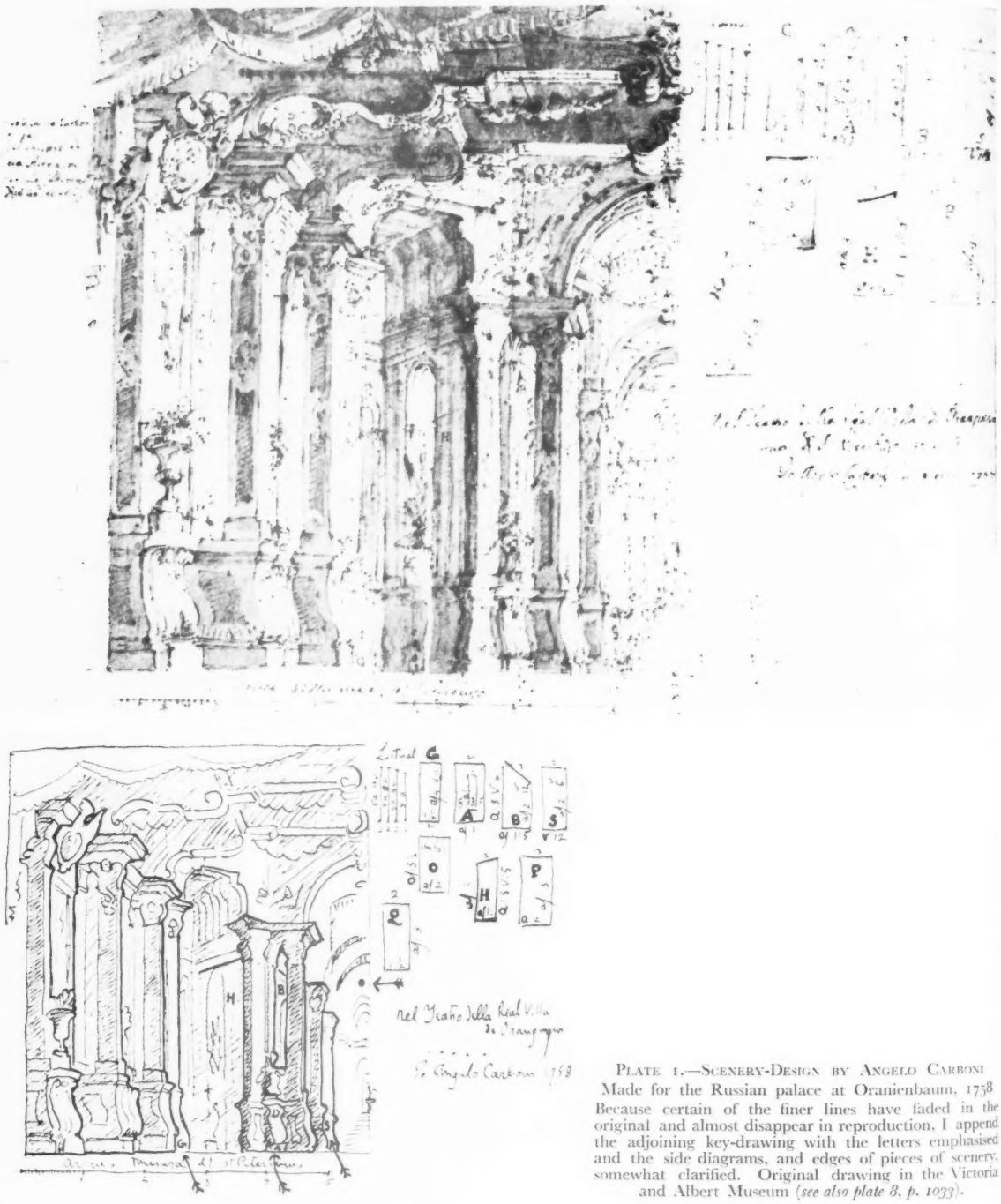


PLATE I.—SCENERY-DESIGN BY ANGELO CARBONI
Made for the Russian palace at Oranienbaum, 1758
Because certain of the finer lines have faded in the original and almost disappear in reproduction, I append the adjoining key-drawing with the letters emphasised and the side diagrams, and edges of pieces of scenery, somewhat clarified. Original drawing in the Victoria and Albert Museum (*see also plate 8, p. 1033*).

moulding at the top of the walls. Neither of these flats is represented as having a central opening, so we conclude that the view through the arches painted upon them was designed on the flats themselves and not on a backing set behind. Look at H and B on plate 8.

The dimensions of B, when laid in place, show that the first column on the spectator's right behind the central group A, visible as the first in a decreasing vista, was painted at the edge of the flat B, and its projections would be similarly of profile. (See plate 8 B.)

We find the flat designated G marked at the bottom edge, just above the last letter of the word "Misura" above the scale. Applying our method of tracing-paper, we find ourselves with two difficulties to solve that at first seem considerable, but for which further investigation suggests an acceptable answer.

The first difficulty is that the flat G, drawn to scale on the measurements supplied by the side diagrams, does not coincide at its top edge with any particular feature of the architecture, which, on the analogy of the first experiments, we should suppose might be taken as a line of division, but reaches to a point somewhat above the middle of the space enclosed by the curve of the corbel supporting the farther roof beam. (Plate 8 G.)

The second difficulty is that it may suddenly occur to the reader to ask, "What is the use of expecting the scale method to fit, because clearly the column under consideration (as also the flats H and B) *stands at an angle* to the audience and therefore offers a slanting face which in itself is in perspective, and therefore of a different apparent height all along?"

To both of these difficulties a solution is offered by the study of the mechanics of the theatre of the period, and I will put them aside till we come to consider that subject.

If we return to our side diagrams, we have already discussed G, A and B; let us take S. A scale-drawing made according to the dimensions indicated gives us a much smaller flat than any we have found yet, which is an indication that its position is farther upstage. For on the principles of the perspective vista, the deeper or more distant pieces of scenery were made gradually smaller.

If then we seek near the centre of the set, on our right of the drawing we find an S inscribed on the pedestal of that column beyond the one at the inner edge of flat B. And laying our tracing-paper upon this, we find the top of the flat coincides with the top of the cornice, and the width, hidden behind the flat in front, is now indicated to us. (See plate 8 S.)

In our search for the flat marked O we must take note that this is the only diagram without the figure 2 written above it. Instead, on it is inscribed "Un solo" —"One only." This immediately suggests that we have here the centre back flat, on either side of which the others are grouped in symmetrical pairs. And in fact we find the "O" in the drawing close to the side edge, a short distance below the farther of the two shaded arches.

We are now in a position to divide the deeper part of the set into its five successive planes, labelled, from front to back, G, A, B (and H), S and O.

(After our consideration of the parallel grooves of the stage in which the flats worked, we shall have to consider that flats A and G may possibly have been set in the same plane or at least in the same group of grooves.)

So far our research has been simplicity itself and has gone comparatively smoothly; now, however, we have to face three points:—

The first concerns the side-wings to our left of the drawing. We have already accounted (temporarily, at least) for flat G, but with the best will in the world it does not seem possible to divide what stands in front of G into more than three columns and so three side-wings. And yet at the top left of the diagrams there are plainly four vertical lines labelled "Latterali." A comparison of the heights of these with the three columns on the drawing shows us that:—

The shortest, of five arshini, is considerably higher than the cornice of the most distant of these three columns.

The second, of 5 ar. 4 v., coincides exactly with the cornice of the middle column.

The third, of 5 ar. 8 v., coincides, it seems, with nothing in particular.

The largest, of 5 ar. 12 v., coincides with the cornice of the nearest column.

Have we any evidence to suppose that the top of the side-wings might, for some reason, reach higher than the cornice which we saw terminated the wings A, B and S?

Let us, however, go on with the second of our three main difficulties. This is much more in the nature of a tragedy. It is that the flats labelled among the diagrams as P and Q are nowhere to be found on the drawing.

It may be there is a supplementary drawing to this, perhaps in another collection, perhaps lost to us, upon which the elusive P and Q are marked. Failing its discovery, we might be forgiven for taking this slender ray of hope—let us see if the order in which the diagrams are drawn can help us:

Supposing that Carboni, in explaining his drawing to the Russian Master Carpenter, were to begin with its elements nearest to his left hand, that is to say with the side-wings, then he would have sketched those first, in the space at the side, and most naturally in the top left-hand corner of that space, where we see them, perhaps with the words, "I shall draw them in section, not in elevation as I shall do the rest." (He needed not to show the widths of these four wings, for they, as we shall see, were always conditioned by the structure of the stage, and would follow of necessity.)

"Now," we may suppose him adding, "we go on farther up-stage and come next to a flat different from the repeating wings, the first flat of the scene proper. This is the shape it is to be." And he draws it next beside the Latterali, labelling it G.

(And it is with some enthusiasm that I should welcome, in this and the other cases, a plausible, psychological explanation of his choice of the designating letters—the suggestion of some words perhaps for which they might stand as initials, or some reason for their apparent inconsequence.)

"Then," he goes on," the next flat continuing up-stage is the open group of columns," and he draws that beside G, labelling it A. "The next behind that is B, and then comes S, and finally O." All these flats are represented in the diagram successively in that order on the side of the paper. Then he goes back to flats not in the direct run of the vista. "Through this opening," he says, "we have H," and he draws it after O.

Now next, in our suggestion for the reason of the order of these diagrams, we see him add two other flats, P and Q *at the end of his list*, so suggesting that they do not come in the ordinary run from front to back, and that they are of secondary importance, even to the flat H, whose function is to "lead off" behind an opening. In addition to this their height suggests they come neither at the front of the set among the tall flats nor at the back among the short ones, but about the middle where that side corridor opens away.

And so putting these points together we suggest very tentatively that P and Q may have been "backings"—or extensions of the set proper designed to stand behind at the side and to be seen only by those people sitting at the extreme sides and front of the theatre and therefore *able to see considerably farther aslant through that opening between G and A than the width of flat H alone makes provision for as a backing.*

Anyone acquainted with the design of stage scenery knows the need of such backings (invisible from anywhere except the extreme sides) to openings, and the tendency to leave them till last. But until a plan of the theatre at Oranienbaum is discovered, and the place of the corner front seats of the audience marked thereon, we shall never know how difficult or easy its particular cross sight-lines were, and so how much backing that arch would need. And until then we shall not be able to estimate the width of the "Latterali," nor the length nor depth of the borders which we have yet to consider.

Our third point concerns all that scenery shown in the drawing but not described in the diagrams. Such scenery is the whole upper part of the set, on which the ceiling is represented.

We know from several other sources (among them several drawings in the R.I.B.A. Library to be mentioned later) that, above the side-wings, borders hung across the stage in the eighteenth century. And perhaps now is the point at which we may turn to certain of those other sources of information on the subject, and come back to the Carboni drawing after considering what they have to offer.

Now first of these sources is the book of drawings by Filippo Juvarra that I have already mentioned.

At the foot of several among the Juvarra drawings there is a slight sketch plan of the disposition of the flats composing the scene. I reproduce here three of these drawings with plans. (Plates 3, 4 and 5.)

The first thing that will be noticed on examining the plans is that upon no occasion is any flat set diagonally—all are parallel with the front of the stage. That this is characteristic of the stage of the period I shall show in a minute. It is suggestive evidence that the flats in the Carboni drawing were none of them set obliquely and that the vanishing lines of the scenery are all perspective painting.

There is, however, a certain disrepute cast on the Juvarra drawings concerning their value as evidence on contemporary theatre, which it is important that I should, before I go any further, clear away.

It has been said that the palace in Rome of Cardinal Ottoboni, for whom the drawings are stated to have been made, contained a marionette theatre, and that Juvarra, as designer at that palace, may have produced these drawings for a puppet stage, whose mechanics would be no evidence of contemporary full-theatre technique, nor therefore might we with any certainty assume that Juvarra had any special acquaintance with professional practice. And so his drawings lose weight as documents.

Now, in proof of Juvarra's knowledge of the working theatre, a careful inspection of the book of drawings by Juvarra in the Victoria and Albert Museum will

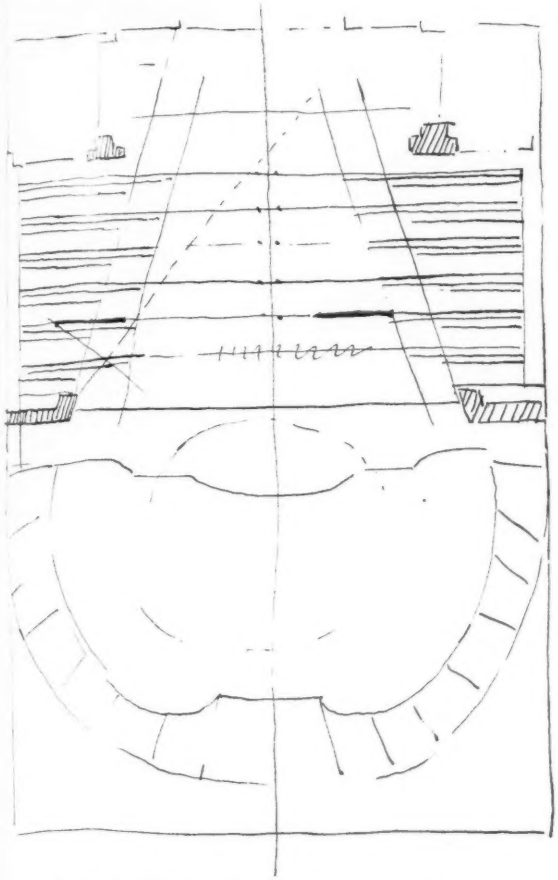


PLATE 2.—ROUGH COPY OF A PLAN OF A THEATRE
From the back of a drawing by Filippo Juvarra in the Victoria and Albert Museum

reveal the complete plan of a theatre. This drawing is in pencil and extremely faint, so that its presence has been until now unsuspected, I believe, even by the officials of the museum. It is on the reverse of the drawing numbered 53. And I regret that its state is so faded that to obtain anything like an informative photographic reproduction would be a considerable task. I have, however, made a rough copy of it, in which I have disentangled it from certain other sketches of architectural details made above it. (Plate 2.)

What it contains is of especial interest. For beside being a plan of a full theatre, auditorium as well as stage (hence making it very unlikely to be the plan of a toy theatre), it contains certain information upon one of the few developments made on Inigo Jones's method of handling scenery.

With Inigo Jones the back shutters and side-wings slid forward, or were withdrawn from sight, in grooves, formed by nailing upon the stage thin battens of wood between which the pieces of scenery slid as in a tramline, while their upper edges were supported in a similar way.

Those sets of grooves overhead, we may suppose, offered some obstacles to the hanging or arrangement

PLATE 3.—SCENERY-DESIGN BY FILIPPO JUVARRA
With a plan of the parts. From the Victoria and Albert Museum

PLATE 4.—DESIGN FOR A LIBRARY SCENE
By Filippo Juvarra, from the Victoria and Albert Museum

of the borders of the set, but to dispense with them left the flats unsupported. (Further, it followed that the borders—of clouds, or suchlike—must hang *in front* of the tops of the flats in order to hide the upper grooves, and hence that one could never profile the top of a flat.)

The difficulty was solved by running the flat in a deeper groove, so deep (in effect) that it itself supported the piece of scenery without the help of the upper groove. In practice this meant a slit was cut in the stage and the flat dropped through it to a depth of three or four feet or so, with its lower edge running on wheels on the floor beneath the stage. In consequence, only the upper part of the flat was seen and needed to be painted, and as it was only the visible part of the flat that needed to be changed, the whole of its framework underneath the stage, together with the wheels, became an independent body, from which a high vertical arm projected up through the slit in the stage floor, upon which arm the flat itself was hung. (See plate 9.)

Now only two such carriages were needed at each wing-position, one pushed forward, on which the scenery of the current scene hung, the other drawn back and ready to be changed and loaded with the wing for the next scene, which came into place at its proper moment by pushing the second carriage for-

PLATE 5.—DESIGN FOR A COURTYARD SCENE
By Filippo Juvarra, from the Victoria and Albert Museum

ward and withdrawing the first back. (Inigo Jones had used as many as four of his grooves at each wing position to take four successive changes. Now we are to suppose the unloaded flats would be put on a "dead" pack, as they are to-day, and their places filled from a second, or "live" pack.)

The indications of such slits in the stage are clearly marked in the Juvarra plan, as is a further innovation, namely, that behind each pair of double slits lies a third single slit, reaching right across the stage.

The function of this third slit is clearly to carry a free-standing piece of scenery, such as the double-columned cut-flat marked A in the Carboni drawing, which could then be slid to any position in the width of the stage. (Also to accommodate shutters at various depths.)

Such a piece of scenery as A is most likely to be found in the upper or deeper part of a stage—if it were at the very front it might mask the actors—and, therefore, we must suppose the first cross-stage slit in the plan from Juvarra's book has been crossed out, either as wrongly entered (if this is a record of a standing theatre) or as unnecessary (if it is a project for a future building).

Moreover, at what is thereafter the first cross-stage slit (level with the second wings) are heavier lines indicating a piece of scenery in action on the stage as a free-standing flat and then pushed across to become a wing, or to be hidden behind the wing proper.

Furthermore, we find a special place in the architecture of the theatre reserved for what we described as "sceanes of releive" behind the back shutters. The side walls of the stage return inwards at this point and then turn back again, continuing in their previous direction but now enclosing a considerably narrower space, reminiscent of the inner stage of the Elizabethans. An examination of Juvarra's notes for scenes shows that he regularly divides them into "lungo" and "corto" or deep and shallow scenes, according as to whether or not they include the inner stage.

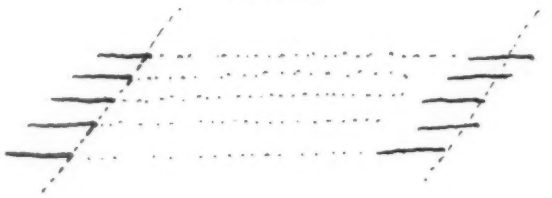
The reason for the second of the two wing-slits being longer in each case is a little obscure at first. There appear to be two reasons for this.

Firstly, the complete cross-stage slit might in each case have been designed to take the two halves of shutters, so providing a back scene at any of five separate depths on the stage. Now, if one of these pairs of shutters were opened and the halves slid aside as far as they would go, it is clear that the side walls of the theatre (or special stops, a short distance before these) would stop their movement at a point where their inner edges would still be in the view of the audience, were they only masked by the narrower of the two wings in front. If, however, we measure with dividers the length of one of these shutters from the centre line of the stage to just beyond the inner end of the longer wing groove, and then, pivotting the dividers on this point, set off that distance outwards, we shall find the longer wing-groove is so designed as to mask that shutter, or hide it, when it is withdrawn and not in use.

But there is another use for the long and short wing-slits which that love of Juvarra's for the elaborate and asymmetrical would immediately exploit. The principle is outlined in Andrea Pozzo's book on perspective, in the second volume, Figura 37.

Here, there is pointed out an interesting perspective illusion. Pozzo remarks, after explaining how

FIGS. 1 AND 2



wings are set in their fixed grooves, that their normal position produces the effect of a vista with its elements at *regular* intervals, a disposition diagrammatically illustrated in Fig. 1; but that, if the artist desires the effect of a vista with elements at *irregular* intervals, he gets it by keeping the wings still in their fixed grooves, but pushing certain of them further on-stage, as indicated in Fig. 2.

Such a trick could Juvarra play with the wings in the set of second slits.

Moreover, reflection will show that, if there are unequal wing-slits, a change of scenery is possible by merely pushing the second wing in each group of slits on-stage, and withdrawing only the first wings in the first group of slits. The farther projection of each second wing would mask the first of the group behind it. Thus, if a succession of alternate wide and narrow scenes were allowed, the scene-changes would be lighter, and if the first flat of the first group were of a neutral design—say a painted curtain—that might

frame any scene, changes might be achieved on these lines merely by pushing on, or withdrawing, the second flat of each group, which would make for considerable reduction in effort.

Notice should be taken that the wings on their drawback are not allowed to reach the side wall of the theatre, but are stopped some short distance away, so as to leave a passage up and down for the actors to their entrances.

Certain cross sight-lines are indicated on the plan, showing that Juvarra understood the paramount importance of these to set design.

And, finally, we might consider what appears to be a cross-stage slit extending between the two sides of the proscenium opening itself. This does not mark the front of the stage, for that is the elaborate curve farther down, but the suggestion might be entertained that into this groove the front curtain was dropped* when, at the opening of the show, the stage was dramatically revealed in all its splendour to the wondering eyes of the assembled court.

Such a brief description of Juvarra's plan (which deserves far greater consideration) will suffice to give us some indication of the appearance the plan of Carboni's set would present, could we see it, and has led us to explain, moreover, the method of support of the wings in their short slits and the free-standing flats (like A) in their long slits.

In a pen and ink drawing of Juvarra's (plate 3) we see how a set of somewhat the same nature as the Carboni scene was planned, and arguing back from the evidence of the Carboni drawing we may venture to suggest the division of the Juvarra scene into flats and borders.

As its plan shows, the Juvarra scene is a "corto" or shallow set, that is, it does not make use of the extra depth offered by the inner stage behind. It shows clearly the disposition of the parts of the drawing into the six sets of slits that we saw on the larger plan, with back shutters in the deepest set,

*The Roman curtain, *aulæum*, was always dropped below the stage, not raised above it.

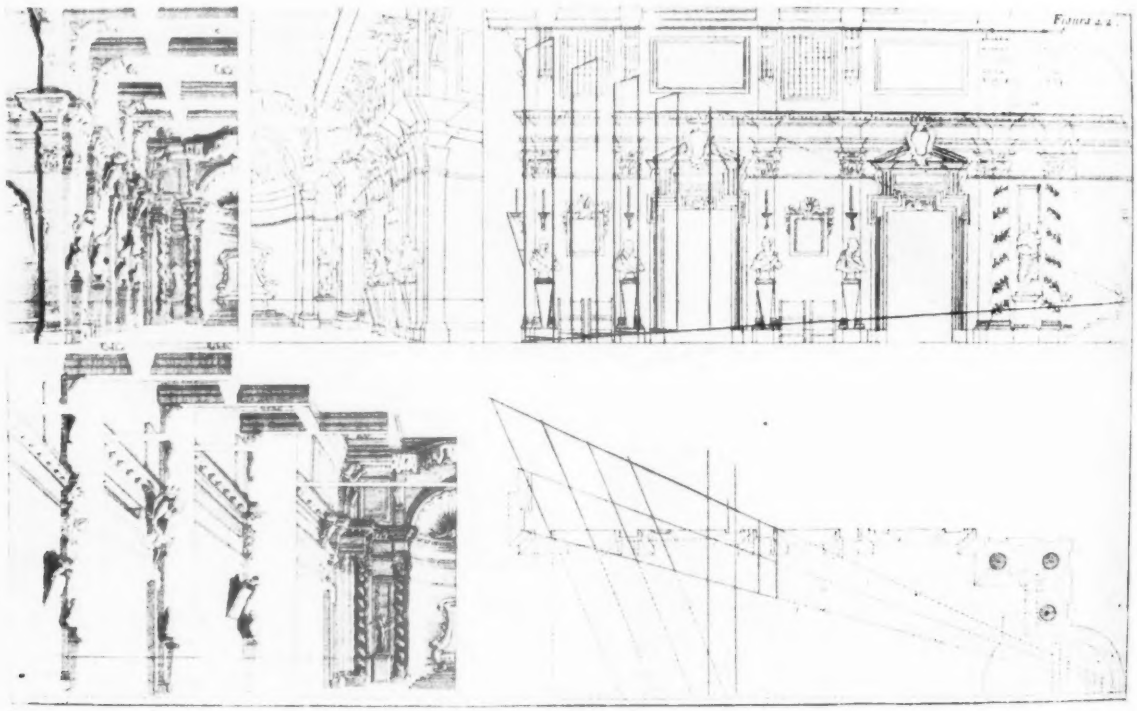


PLATE 6
A plate (figura 42) from the second volume of Andrea Pozzo's "Perspectiva," in the Victoria and Albert Library

while in the set in front of the back shutter—the fifth set up-stage—the wing from the stage-right is pushed right across to meet its fellow on the left, so closing the diagonal vista. And by this move we are introduced to the most widely discussed problem of staging of the eighteenth century—the diagonal setting.

We are at length in a much better position to solve this problem, provided with the evidence of Carboni and Juvarra. Let us turn to the other two Juvarra drawings, for a library and a courtyard, and, considering them to be constructed on the lines described above, we shall see still further development towards the full use of the form as seen in the drawings of the later Bibienas.

It is especially interesting to consider the second of these, the courtyard (plate 5), as constructed of parallel flats (indicated on the plan) and to see how, now, we must discard the popular idea that such sets were made of diagonally hung cloths. (An arrangement which presents one of the greatest nuisances in stage setting and is, in fact, mostly impracticable.)

Before we pass the library scene (plate 4) we may note that here is a "lungo," or deep set, the elements of which reach back into the inner stage, the old territory of "releaues," and the only place where scenery could be changed, out of sight of the audience, by means of masking it with the shutters of the succeeding "corto" scene.

Two points outstanding from the above analysis of the Carboni drawing remain; concerning the rest, our references to Juvarra and Pozzo have supplied some sort of information. And the two points we have last to consider are these:—

Firstly, were the wings so designed that the top of the cornice to the columns painted upon the wings did not coincide with the top of the flat? From which point we hope to understand the relation of the measurements of Carboni's "latterali" with the wings of his drawing.

Secondly, what information can we find concerning the borders?

For the first of these questions Pozzo supplies a ready answer. In Figura 42 of his second volume on perspective (plate 6) are some typical profiled wings the columns (or pilasters) of which do not, at the inner, or stage, side, reach to the top of the flat. Instead, the fitting of the design upon the flat is so arranged that the top of the flat comes at the point where the cornice is imagined to join the flat *in front*; and the column profiled on the edge of the flat, being more distant, reaches up only to a point some

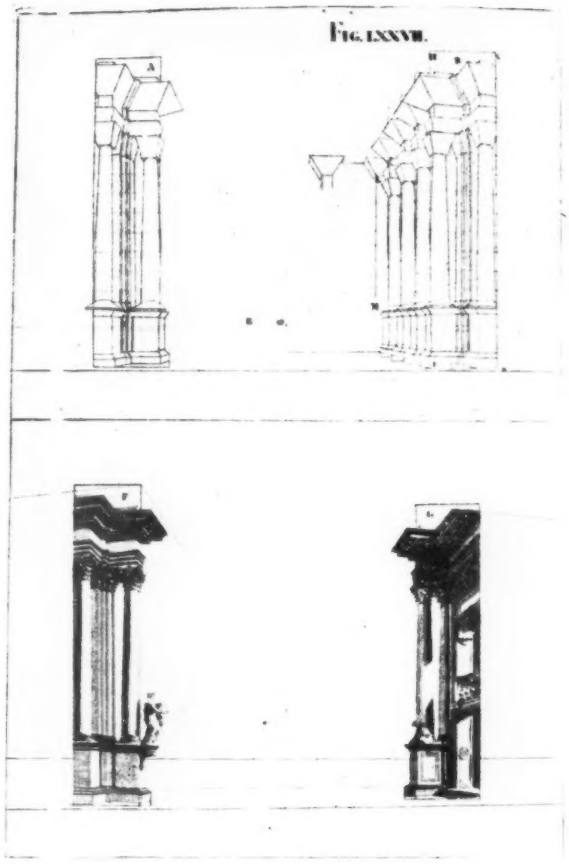


PLATE 7
A plate (figura 77) from the first volume of Andrea Pozzo's "Perspectiva," in the Victoria and Albert Library

distance below the top. Clearly, from the perspective point of view, in a succession of flats representing a vanishing wall ornamented with a row of columns or pilasters, each flat must contain its column plus that space of wall between it *and the next column in front*—a piece of wall the cornice of which slants in perspective, so causing the part of the cornice above the more distant column itself to be painted, not at the top, but some distance down the flat according to the acuteness of the perspective.

From this arrangement two interesting points arise. The first of these is that if the wings are situated not as in previous examples, that is, parallel with the front of the stage, but obliquely, the painting of architectural perspective upon them becomes much more difficult.

So much so, in fact, that, in spite of the brilliant lead given by Pozzo and his studies about 1700, in the suggestion for oblique wing treatment (by which arrangement, as he points out, the sides of a stage are much more adequately masked—this is the method in use to-day), the theatrical designers through the century relied on direct wings of which the number had to be greater, with the intervals between them less, but upon which perspective could be painted without having to calculate a "false vanishing-point."

Concerning this False Vanishing-Point, it will be seen that in the flat marked F in Pozzo's Figura 77 of the first volume (plate 7), the "horizontal" lines of the architecture are, in fact, painted *in perspective*, and, were the wing to be viewed directly from the front, they would appear to converge towards the side of the stage; similarly the vanishing lines running away from us at right angles vanish not at the normal vanishing-point in the centre line of the backcloth, but at a supplementary vanishing-point on the same horizon, and to the side of the centre line. The two supplementary vanishing-points, one for the flats on the left of the stage and the other for those on the right, are shown on this plate.

If, however, a flat painted according to these rules of Pozzo's were set in an *oblique* groove, then the horizontal lines would not appear to converge and the vanishing lines would appear to vanish toward the normal vanishing-point. Hence, Pozzo announces, with a flourish of legitimate triumph, if the scenery "be painted according to the rules hereafter given, it will appear to him that views it from the point A as a regular piece of perspective" placed in the proscenium opening.

Of course the whole weakness of all this brilliant perspective ingenuity is that if the spectator fails to view the scene exactly from the "point A," wherever that might be, he, in fact, does not get the effect of a perfectly "regular piece of perspective."

But in those days it was no doubt upon "the point A" that the wealthy patron's seat was situate and, if all appeared well to him, the little lordlings at the side would applaud and be satisfied.

As for the two thin triangles at the top and bottom of the flat that, careful reflection will show, must be left without occupation in this scheme, Pozzo blandly remarks:—

"What remains of the frame beyond these lines is to be reckoned as nothing, but you may paint there Air or what your please."

One pauses for a moment charmed at the picture of one of Pozzo's contemporaries seriously and busily engaged in painting air or what he pleases "beyond these lines"!

Our special interest at the moment with these designs for wings of Pozzo's is to inquire whether they suggest a method by which the down-stage, or front, part of Carboni's set could be represented upon four flats, though at first sight it appears impossible to divide it into more than three planes.

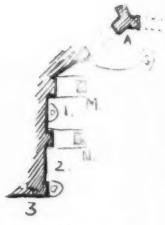


FIG. 3

Is there, moreover, a good, sufficient and luminous reason why he should need four, instead of contenting himself with three?

A careful consideration of the part of the set in question—that which extends from the extreme left of the drawing up to just before the flat marked G—indicates that the architectural plan of the wall would in real life have appeared at this point somewhat as in Fig. 3. That is to say, there would be a receding wall returning at right-angles at its nearer end to disappear to our left behind the proscenium arch. That part of the wall that faces the stage is divided by three pilasters, one at the near corner, one in the centre, and one at the far end, beyond which last the wall turns inwards towards the opening between G and A.

Now it is clear from the plan that, though there are three pilasters, there are only two disengaged columns—that which appears at the extreme left-hand edge of plate 1 is not a free column at all, but the nearest of the three pilasters. So our problem is not to fit three columns upon four flats, but instead the two columns and the two wall-surfaces, making the angle between us and the columns. Which seems to be a more likely task.

If next we follow Pozzo's lead and, beginning at the farther disengaged column (M), place it and the section of wall before which it stands (marked 1 on the plan) upon a wing 5 arshini high, we produce a perfectly normal piece of scenery similar to Pozzo's in disposition of its parts with the profiled cornice similarly some little distance down the edge of the flat. (See plate 8 Z.)

On this farthest flat, then, we paint column M and wall-section 1.

Now the height of our next wing (the third from the front) is given at 5 ar. 4 v., which is (distractingly enough) the exact height of the cornice above the front column (N). So it follows this column must be fitted upon the flat in a different way from the

last, and occupies its full height, reverting to the principle of the flat A. Can we find a reason for this?

Of the measurements of the other and nearer two wings, that of the first, 5 ar. 12 v., similarly coincides with the cornice above the first or corner pilaster. If, then, that wing is to take the wall-section No. 3, on the plan, there is left only wall-section No. 2 to be represented on the second wing.

Now let us name the four flats or "latterali," W, X, Y and Z, W being the nearest and highest, then we find that W and Y fit their columns, while X and Z seem to end, at the top, without relation to anything.

But now that we find it is precisely those flats which bear the painting of *walls in perspective*, and not solely columns in elevation, upon them (*i.e.* the walls 1 and 2), which seem so arbitrarily dimensioned, it is immediately possible that these alternate flats are designed on the same principle as those in Pozzo's Figura 42, where each section of the wall consists of one pilaster plus the wall between it and the next pilaster in front. As the top of this wall is of course in rising perspective, the flat must be of a height to take the wall at its highest or nearest point.

Now on his flat Z Carboni has, we presume, represented an orthodox arrangement consisting of

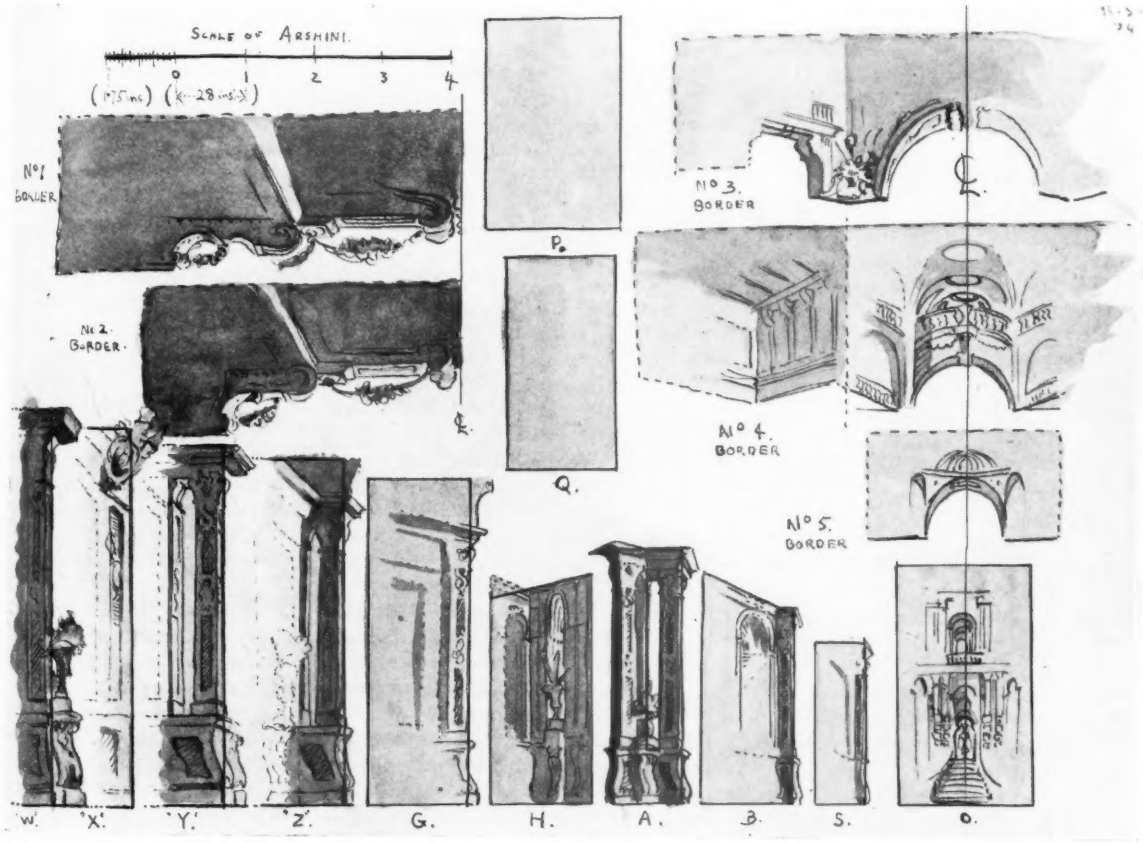


PLATE 8

A diagram of the component parts of the scene represented in Angelo Carboni's drawing, made to scale according to the dimensions given at the side of that drawing. Superimposed on each piece of scenery in the lower row is the outline of the square frame on which it was built as indicated in Carboni's sketches, to which frame the projecting details were added on "profile-board" as explained in the text. The parts of the diagram represented in dotted lines are conjectural. The width of each of the four side-wings W, X, Y, and Z depends on the length of the wing-grooves in the theatre, and would equal half that length. Only the right-hand third or quarter of each of these wings is represented here. For further explanation see the text

free column M and wall-section 1 in perspective. He is, however, prevented from repeating this procedure with column N and wall-section 2 because the wing in front of this is unlike the others and represents a wall in elevation not in perspective (wall 3) with no free column related to it.

And so Carboni appears to have decided to represent wall-section 2 on a wing by itself (like either of the wings with a mirror hanging upon them in Pozzo's design), and, to this end, we may suppose he has added the elaborate cartouche or trophy at the top, so that this could be painted on a piece of profile and serve to disguise the straight top of the flat, at any rate at its on-stage end, where it would be most seen.

The height of 5 ar. 8 v. is consistent with this suggestion, and the appearance of the four "latterali" would be as shown in plate 8 W, X, Y, and Z.

It should be noted that on the left of flat Y a wall in perspective is represented and the wing appears exactly as Z. This wall would be painted there only to occupy that part of the flat which would normally be behind X, but which would be seen only by people looking across the stage from the opposite side of the house. It is in fact a repeat of X, and represents exactly the same wall-section as that on X (No. 2 in Fig. 3).

Then, in conclusion, we turn to the borders.

Pozzo again offers us a little help in his Figura 42 of the second volume (plate 6), but unfortunately only a little. We note there with some surprise that the division between border and flat is quite an arbitary straight line, and not, as we might have supposed, coincident through some trick of ingenious handling with a member of the architecture, the existence of which would justify any break that might be observed between the "sceane and its ceiling" as Pozzo calls them.

And we make our final consideration of the Carboni drawing with some regret, feeling that we seem to have evidence of how Carboni is likely to have cut his borders, and yet that method is hardly consistent with the ingenuity shown in the rest of the design.

It is toward a better understanding of the construction, placing and changing of borders that research needs most directing in this problem of the eighteenth-century theatre. None of our otherwise valuable authorities throws much light for us on the nicer details of the border.

We notice that photos of some of the eighteenth-century settings at Drottningholm Castle show us borders hanging *behind* their pairs of wings and that the wing tops may consequently be profiled. But at what date this reversal of Inigo Jones's arrangement came in we have still to decide.

It is especially upon the method of changing borders for a show of eight or ten or more scenes that we seek information, from which we might be able the more surely to lay our fingers upon just that line where the border was cut and the wing began.

Conjecturally we may make of the borders an arrangement of the sort shown in plate 8, where there seems no reason to suppose that border No. 4 might not have carried painting for the backing of three separate arches—the centre one and the two sides.

In passing, we might, to make our knowledge the more complete, add a point of interest concerning borders that is to be found suggested in a drawing attributed to Inigo Jones from the Salvin collection now in the Library of the R.I.B.A.

The problem to which this drawing offers solution is this: supposing the front wings of the set are tall, and the more distant progressively shorter, will it not follow that the borders (which must touch the tops of the wings) must be hung progressively lower as we go up-stage—and if the farthest and smallest wing (as in the Carboni drawing, for instance) is only 5 feet 6 inches high in English measurement, surely a border hung across at that level would be ridiculously low and would cramp unjustifiably the view on the back-scene?

The R.I.B.A. drawing (see Headpiece) shows us how the ingenuity of Inigo Jones solved the problem and in this, as in so many other theatrical points, set a standard of procedure that was followed almost to our own day, and originated a tradition. The solution consists in arching the deeper borders with a progressively increasing arch as they go farther back.

Those borders at the front of the set represent rows of clouds more or less horizontal at the edge, but as our eyes go down into the deeper parts of the set we see that the farther borders, though fairly straight in the centre, drop very considerably at the end to meet the shorter flats. So Inigo Jones solved his problem of representing a deep and decreasing vista without suffering the upper frame of that vista to sink and crush the effect of the back-scene closing that vista.

The ingenious Renaissance mind did not play the new game of theatres without freely giving all its fertility of invention, and the sky borders of the late eighteenth century, preserved at Drottningholm Castle, though simpler in profile, still observe that increasing arch as they go up-stage that, throughout

the century, had become a tradition, but that Jones, the pioneer, had had to think out for himself.

We have a great deal still to learn about the early eighteenth-century methods of scene-arrangement, but we can at least have the confidence now to look a Bibiena design in the face, and we need be no longer completely baffled. Strange as it appears, many at least of these sets were made up of separate flats in parallel planes, however strong an impression they give of an unbroken wall.

And this nerves us for our last conviction. We must not let all the drawings by the ten Bibienas impose upon us. A certain proportion of them we must not allow to contain any problems of staging at all, nor must we try vainly to suggest how they were done. We must say quite definitely that they are impositions as stage designs and could not be put on any stage at all!

It is not necessarily those with the most elaborate architectural details about which we make this assertion, but especially those (showing open town squares, for instance) running diagonally across the stage *with no adequate elements for masking one side shown at all*. With such drawings we should never trouble our heads. They are only to gull the innocent. They are not merely bad stage-designs—they are not stage-designs at all!

If the artist were to reply that they were staged, but with the addition of further pieces of scenery not indicated in the slightest degree on the design, then that is another matter. And our criticism rises to an accusation that here for the first time in history the designer becomes guilty of pretty designs that couldn't, as they stand, be put on the stage. And his descendants are still with us.

In actual fact we may suppose the attractiveness and elaboration of the first Bibiena's designs proved so popular to his age that his sons and grandsons made of the style a new fashion in art—just as the Japanese theatre supplied the themes for families of wood-block-print makers—and produced *beside their genuine designs for the theatre* a host of other architectural pictures in the same style that had no relation to the strict conditions of stage scenery at all.

There are three other drawings in the R.I.B.A. Library that are of special interest in connection with this article.

The first of these is from a number of measured drawings made by Henry Parke, in 1822, of the Scala Theatre, Milan; in them one can study in detail the construction and use of wing-carriages and the nature and position of the slits in the stage floor (plate 9).

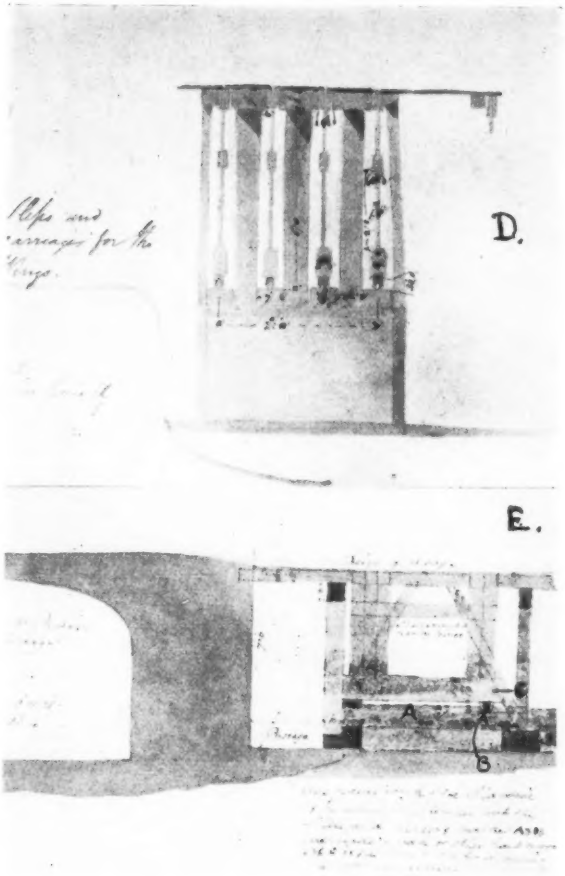


PLATE 9.—MEASURED DRAWINGS BY HENRY PARKE, 1822

The stage of the Scala, Milan, in 1822 possessed ten sets of "slips," each with four carriages. The farthest slip in each set was a long slit reaching across the stage. D shows a sectional sketch by Parke of one of the sets of four carriages, and E the side elevation of a carriage, beside which he has written: "The framework of the machine is made of Fir timber but the Slide and Rollers marked A and B are made of oak or other hard wood. At C is the iron hook for drawing the machine along." To each of these carriages it was the usual procedure to fix a high vertical arm projecting through the slit in the stage. On the arm the wing was hung.

From the R.I.B.A. collection

To have this information conveyed to us by an Englishman is of especial interest and almost unique, because it is highly likely that we shall find that wing-carriages were very little used in England and were, to the English designers and architects, matters of interest as methods used on the continent and therefore studied by such travellers as Parke, but

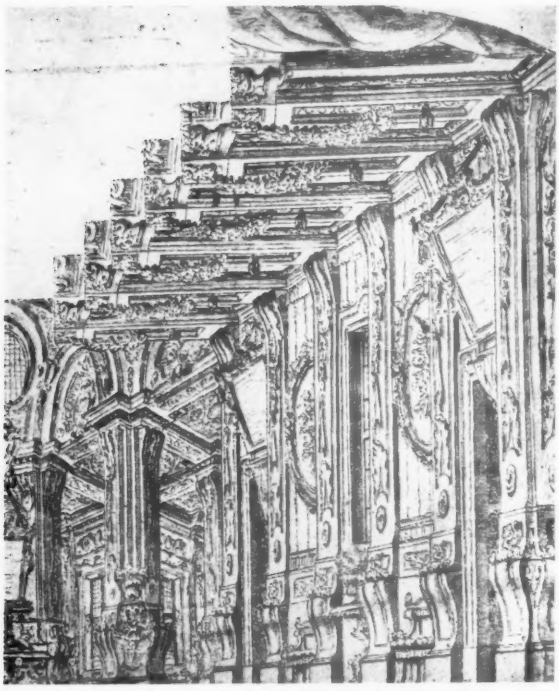


PLATE 10.—DRAWING OF SCENERY BY A MEMBER OF THE BIBIENA FAMILY
From the Drummond Stewart collection in the R.I.B.A. Library

that at home in England (alone among European countries) the tradition of grooves that Inigo Jones initiated was faithfully preserved.

We have, at any rate, in the *Magazine of Art* for 1889 an article by W. Telbin, the scene-painter, containing the following passage: "Are we to return to old-fashioned grooves in which strips of painting were pushed on parallel to the audience? Would the old spectacles be preferred of scene-shifters charging one another with 'flats' that ran in the long extending arms of the grooves and dropped down with chains?"* And with his article he gives a most interesting sketch which, though slight in its detail, suggests the shutters and top wing-grooves, but seems to have no signs of slits in the stage, and which I take as being a drawing of arrangements still used within the artist's own memory. If this is so we find that, despite the elaborate machinery used on the continent, some of which is so clearly noted in Parke's drawings, at home in England Inigo Jones's tradition of grooves persisted at least into the second quarter of the last century. In some of the older English provincial theatres there is to be seen even to-day a system by which some at least of the side wings are supported by "forks," projecting down from above with the tops of the wings slid in between the prongs of the forks, which system seems to be the lineal descendant of Telbin's grooves.

The two other drawings in the R.I.B.A. collection of especial interest here are both from the hands of the numerous Bibiena family. The first (reproduced in plate 10), which I take to be by one of the elder members of the family, though it shows an unusual and seemingly helpful frankness about the borders, still presents something of a puzzle.

As it stands it suggests six wings and six half-borders, with one half of a shutter (presumably) at the back. The set seems to be cut down the centre line and then looked at from a position to the left of that centre line.

Between the centre of the back-scene and the most distant of the wings is shown a group of columns. This is a very similar arrangement to Carboni's, and we might suppose that this group was represented on a free-standing flat like Carboni's piece A, but if so, the artist has shown a disappointing reticence about the border above it, and if the arch springing from this group of columns were to be cut on a hanging border, its summit would rise too high for the back-scene behind. So it seems quite feasible that this drawing belongs to the same period as Inigo Jones's designs. It is, like them, a simple setting of back shutter and borders, but the composition on the back representing three vistas, a central one and two sides (which became almost a formula) led to the development of the column-group as a separate free-standing flat, and to the supersession of the shutter by a number of smaller backings, each to its own vista—later still, even to a number of wings before the backing, so elaborating the number of planes.

But concerning our other point—where did the wing end at the top, and the border begin?—we still, alas, must be patient and watchful for further evidence.

And the final drawing I add (plate 11) as it contains something that I believe is unique—though unfortunately it takes us into another style of setting that space forbids our discussing here. This drawing seems to indicate a *box-chamber set*, and if it does it is the earliest example I have yet come across. We must walk warily here because there is, as I have said above, a great weight of evidence to suggest

* The reference to "chains" has still to be elucidated.

that the Bibiena sets were all of the parallel wing type. In spite of the evidence it does look as if in this example we really have a room made of three continuous sides, and that here is the first tentative move for a new form that later was to become the general form of our modern theatre—even to be worked there almost to death, so that it is not unjustly said of modern performances that they offer nothing scenically but an endless succession of box chamber sets and realistic three-sided interiors.

It is important to notice that a figure is shown *entering through a door.* Now this is of especial significance in support of the box-set theory, since doors on wings are unlikely to have been practicable—the actors had already an entrance provided between each wing and its neighbour. In wing-sets, while doors may be painted, they are rarely of great importance, but if we have, in plate 11, a continuous side wall, then a door is essential as the only entrance to the acting-area.

This set magnifies the old problem—How was the ceiling represented? For masking the top of a box set is a far greater problem than masking a wing-and-back-scene set.

In some of Juvarra's little plans, a flat occasionally seems to be represented in an unusual position—at right angles to the grooves. Such a flat is suggested up-stage-right in the plan in plate 3, where it is essential to adequate masking. If this inference is correct, and if we may guess that the flat in this position was supported by a line and cleat to the normal flats of the back shutter, then it is but a very short step to the expansion of this odd flat into the side of a full box set.

If this drawing does represent such a set it is of very great interest indeed and deserves special study and discussion apart.

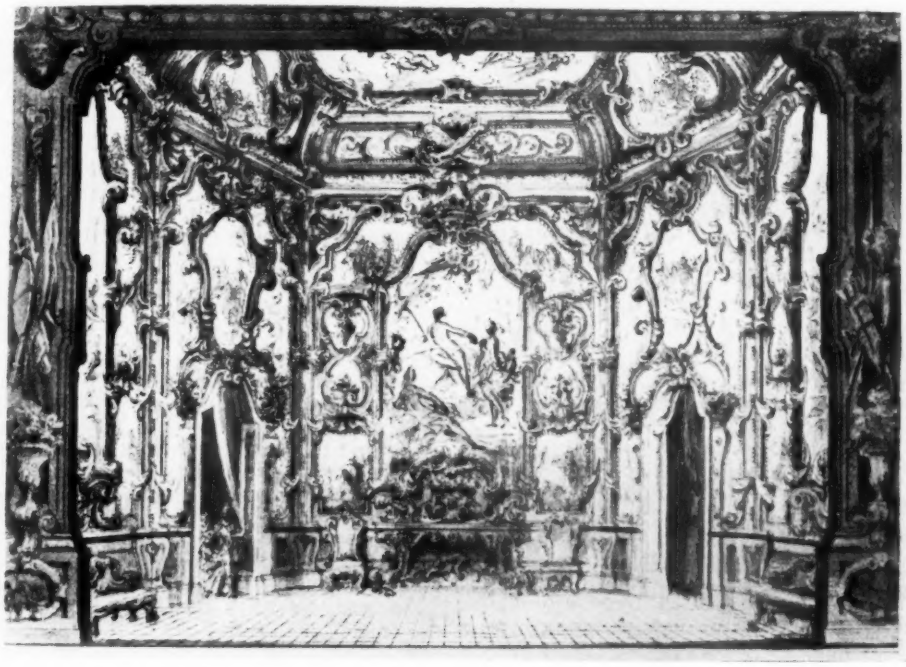


PLATE 11.—DRAWING BY GIUSEPPE BIBIENA
In the Drummond Stewart collection in the R.I.B.A. Library

Noise and Housing

A PAPER READ BEFORE THE CONFERENCE OF THE ANTI-NOISE LEAGUE, 27 JUNE 1935

BY HOPE BAGENAL, A.R.I.B.A.

During the next few years large sums will be spent on new homes of all kinds and on their equipment. The Anti-Noise League wants to give a direction to some of that outlay so that there shall be quieter homes and better living conditions. But we must all help. Noise is a confession of failure—failure of good building, failure in machine design; a failure in courtesy to our neighbours; it is an invasion of property rights—a failure to protect the public; and where our electric supply companies give us current causing noisy equipment (like single-phase motors) it is a failure of public services. And so we must all help towards a remedy—estate agents and surveyors, architects, builders, engineers, manufacturers, salesmen, and last but most important of all the public itself.

Building or Engineering?

First let me draw a distinction. Residential buildings are not industrial buildings. They have quite different requirements. It is true there are designers to-day who want everything to look like a factory, just as their grandfathers wanted everything to look like a church; but even if you want your house to *look* like "a machine for living in" you don't want it to make a noise like a machine. The facts are that the home must provide sleep and must also provide as much shelter for the contemplative life as for the physical life. Therefore it is much more than "a machine for living in." But the evil of modernist fashions, and where members of the public have been touched and injured, is that standards of structure and equipment suitable for industrial and office buildings are thoughtlessly taken over for residential buildings for which they are not suitable. Engineering science is not building science, and engineering methods will not necessarily produce good buildings. Why is this? Because engineering concentrates on safe structure for a minimum cost and some of the best engineering brains are ceaselessly preoccupied with that problem. As a result structure is ever growing thinner and more highly stressed. But the architect must consider safe structure *plus protection and durability*.

Discrimination

Thus thin highly stressed frame structure, thin partitions, thin structural floors, monolithic with frames, thin skim coat plasters, are all economical engineering suitable for workshops, offices, factories. But their use does not, in my opinion, make for durable domestic building able to protect against radiations of all kinds and give quiet living conditions. A thin partition, perhaps widely advertised as sound-proof, will shut out noise of typewriters and of voices in your office when you are yourself dictating and interviewing, and when you have a fair threshold of traffic noise from outside, but the same partition may be quite useless as a party wall when you are trying to fall asleep against your neighbour's loudspeaker. One cannot escape the general application of the mass law—namely, other factors being equal, a building defends against noise (and incidentally avoids other modern maladies) in proportion as it is massive, non-homogenous in structure, and has the right kind of porosity. There is also the evil of the rush job and of false economies. When insufficient time is allowed for building processes, when cheapness rules throughout, then there results inevitably the bad building and the noisy building. And here professional men want the support, *the discrimination*, of the public. The public must rely largely in modern life on the special knowledge of the great professions, yet it is very difficult for the professions to stand up against the huge thrust of fashion, advertisement, mobilised business and false economics, which from time to time takes place. How well we know in architecture the clever ramp, the organised publicity campaign, the sequence of brochures appearing on our table, the whisper in the ear that we are not quite up to date if we do not specify what is now being so widely discussed in the fashionable journals. And yet it is our duty to stand up against it, to sift, criticise, test. That is what we are for. It is our duty equally to encourage the firms who serve the public by their experience and by their professional interest in their subject.

But the public for their part must realise that every five pounds' worth of luxury equipment, labour-saving gadgets, special services and communications, is a five pounds taken out of the substance and quality of the building. Nowadays the cost of a dwelling has to be not only the minimum possible but must also cover an immense amount of equipment which before the war was quoted as extras. And so the public themselves by their demand for extra equipment without extra cost are contributing to our problems. They must realise that cheap mechanical equipment is noisy and cheap building is transparent to noise.

But the special importance of good solid building is because of the menace of the loudspeaker. Do you realise that your neighbour may at any time put at the other

side of your party wall an instrument capable, with suitable room resonance, of developing anything up to 85 decibels, nearly as much as a loud sports car or road drill and capable of setting all thin walls and floors in vibration? And he may keep it on for hours. Well, what is the public going to do about it? What do they say to controlled amplification?

The Three Publics

Of course, every estate agent knows there is not one public but several publics. Let us briefly consider three. There is a large class which genuinely does not mind noise. It consists of people always hopefully moving about from one flat to another, who are interested in motor cars, cheap wireless sets, in apparatus of all kinds, who are not prepared to pay a penny extra rent for quiet. It sounds incredible, but a noisy thoroughfare, *if semi-stylish*, is often a better site for speculative small flats than a quiet site round the corner. Then there is the large class of the wealthy who in selecting a home have one dominant anxiety, namely "what will others think of us in these surroundings?" This class presents anomalies: members of it often insist on paying extra for parquet floors in a flat even when they know they must close carpet the whole flat in the terms of the lease. Parquet floors are *the thing*: so are expensive wireless sets: but when quiet surroundings shall become *the thing*, then this class will insist upon and will pay for them. Thirdly there is the class of educated people of moderate means who are here and now prepared to pay extra rent for quiet surroundings within reasonable reach of their work.

Now here are some practical proposals: first, that these classes be recognised and catered for in flat building. The first class, the noise-lovers, want freedom to design their own wireless sets, they want to experiment, and get foreign stations. They do not want controlled amplification. They are well catered for already. But the second class for the sake of quiet would generally approve of flats having relay wireless services with centrally controlled amplification. The reproduction ought to be of much better quality than it usually is and there must be freedom from background noises and a choice of stations. Also supplementary amplifiers must not be permitted. A better system than the ordinary cables to wall plugs is one being developed by Mr. Eckersley and Mr. Carpenter in which use is made of the electric light wires. The point is that loudness shall be controlled by the management so as to be enough to fill the room and give tone value but not enough to set walls and floors in vibration. Another advantage would be that party walls and partitions between flats could be designed with a direct reference to a standard loudspeaker in position: a block of flats of this class could then offer to tenants both good quality reception and a standard of quiet in bedrooms.

Earphones Only?

But there must always remain the problem of summer evenings and open windows. One recollects that Hermes the god of Communication was also the god of Mischief! To persons sensitive to speech, to the intelligence of language, there is something agonising in the long distracting outpour of the non-stop loudspeaker. Out it all comes—jazz bands, lectures on freedom, piano solos, church bells, Wagner opera, the Lord's Prayer, as though the fine structure of mind and of civilisation had received some atomic blow and become a meaningless stream. Even nice people keep on their loudspeaker through an evening's conversation. It is for sufferers from this that I want flats with earphones only: I believe if they existed in London they would be snapped up at once. More work ought to be done on earphones. They are a test of whether one really wants to *listen* or merely hear a noise.

Planning Factors

The menace of the loudspeaker and the inadequacy of the ordinary party wall in flats must first be tackled by proper planning. The R.I.B.A. have made some interim recommendations on this, which are illustrated in the exhibition and published in the R.I.B.A. Journal (8 June 1935). Of these far the most important is this: "Plan living rooms against living rooms on the party walls and similarly bedrooms against bedrooms." This is because your neighbour's wireless heard by you in your own living room can be masked by conversation and by your own wireless, but it cannot be masked if it is heard by you in your bedroom when you are trying to go to sleep. So the first thing to ask when inspecting flats is where is your neighbour's wireless in relation to your bedroom. If it is just the other side of a thin party partition then don't take the flat.

Again it is possible to plan buffers on party walls in the form of cupboards carried up to ceilings (but if you do so then put quiet catches on the cupboard doors) or in the form of bathroom against bathroom. This is specially necessary for bed-sitting room flats, in which the loudspeaker may occur in every bed-sitting room. This class of tenant often comes off very badly. Blocks of one-room flats are generally frame structures carrying light partitions and flats are often separated only by single partitions for the sake of cheapness. This does not, in my opinion, give living conditions.

Flats of the more expensive kind can be planned so as to be almost entirely dissociated on the horizontal plane by staircases and lobbies. Mr. T. P. Bennett, an architect of great experience in the designing of flats, says: "The most satisfactory flats are three-sided, giving varied aspects, so that bedrooms can be placed on the quiet side," and, he adds significantly, "often quiet conditions must be weighed against a sunny aspect." Small enclosed courts and recessed areas must be avoided: they can make a single noise into a serious nuisance for all rooms giving upon it.

An important consideration in building flats is the degree of quiet of the site. A quiet suburban site will cause many more complaints of noise transmission

through wall and floors than will occur in an ordinary London site. That is to say, that relatively more expense must be allocated to sound-proofing in the first than in the second case. This is so marked that the control of amplification of wireless sets by the management and the close carpeting of flat floors all over is almost a necessity in suburban flats.

Workmen's Dwellings

Workmen's dwellings and tenements present problems of their own: it is wise, for instance, to plan the principal bedroom on the side away from access balconies. But in one respect they are simpler. Since they have no lifts we are agreed that they should not be higher than four or five floors. This means that 9 inch brick party walls can be carried right up between flats: and then floors can span in sections from back to front over a spine wall *and need not have a bearing on party walls*. This separates flat from flat in the horizontal plane, which is a very great advantage: and here it may be possible to combine the older solid brick construction for party walls with lighter frame construction for front wall, spine wall, back wall. There remains the question of floors. This questions bristles with difficulties, especially in cheap buildings. For proper sound-proofing no structural floor, in my opinion, ought to be less than 8 inches thick—but we know they are often reduced to 4 inches. The cheap "filler floors" used widely in workmen's dwellings are highly transparent to impact noises, that is, to footsteps, children playing, pianos, hot water bottles falling out of bed. They will transmit to the storey below the ring of a threepenny bit dropped through a quarter of an inch or less. This does not provide living conditions. In middle-class flats it is possible to insist in the lease on close carpeting all rooms and lobbies in every flat, but this is not possible in workmen's dwellings. I would plead, therefore, strongly for the small added expense of an insulating or anti-impact floor in the living room of each wage-earner's flat. Such a floor ought to be of the cushion type laid solid upon structure and eliminating boards and battens altogether. But the cushioning material must be thick; recent experiments show that thin $\frac{1}{4}$ inch cushioning surfaces are almost useless. The problem is to get a strong enough lino or sheet rubber to resist chair legs and furniture loads over a cushioning equivalent to $\frac{3}{4}$ inch of sponge rubber. It is a pity that the two cheap cushioning materials, one made of compressed reeds and one of wood wool, shown in the Exhibition (Nos. 77 and 69) are ruled out of use for workmen's dwellings owing to the bug menace. These materials, 2 inches thick, would supply the needful cushioning over the thin structural floors, if only they could be sealed against bugs by a thorough screeding sufficiently to satisfy our hygiene authorities. It should be noted that eel-grass, asbestos blanket, and glass silk are all repugnant to bugs, but all generally imply the wood floor surface. For middle-class flats it is to be noted that, if close carpeting is unpopular, a type of anti-impact and sound-proof floor providing a wood finish is now available giving excellent results, shown in our Exhibition in the Demonstration House and in No. 73.

Lifts

I must not leave flats without a word about lifts. Lift lobbies and staircases ought to be trapped from public corridors. The lift need not and ought not to be a source of noise. The excellent passenger lift shown in our Exhibition (No. 66) illustrated how many points in lift design require attention if noise is to be eliminated. These points are usefully annotated in the catalogue.* And in addition a quiet lift must remain quiet and therefore requires some care and maintenance.

A Suggestion for Cottages

The question of flats is urgent. But cheap houses are just as important. In proportion as cost is cut down, noise transparence goes up. We have all been vying with each other in an attempt to build cottages which shall be cheap enough to pay an "economic rent." As a result, thickness dimensions of floors, walls, doors, windows, have all been cut down and noise has increased. But in this welter the hygiene authorities have stood firm. A cottage may be made as thin, as to its walls and floor, as we like, but its rooms shall be at least 8 feet high. Now the height of a window head above floor level is about 6 feet 6 inches to 7 feet, and my own view is that the extra height above the window head, in rooms having fireplaces, or through ventilation, is hygienically quite useless. But that extra foot puts up the cost considerably by increasing total cube. My suggestion is to permit 7 foot rooms in cottages where there is cross ventilation *and put the money saved into insulating the party wall.* A method of insulation is shown in the R.I.B.A. interim recommendations. The party wall to be not less than 9 inches thick at any point, including fire backs and joints

* To achieve silence, two distinct types of noise required to be eliminated.

1. Electrical hum due to the alternating current.
2. Mechanical noises from switches, locks, etc.

The first problem was the more difficult. Electrical silence is achieved by a patented Vernier-Cushion Control System. The noisy and jerky two-speed squirrel cage motor usually employed is not used.

The motor is a specially designed "Super-Silent" single-speed slip-ring motor. For slowing down, an electrical eddy brake is employed, giving perfectly smooth and silent deceleration. The patented control gear operates on direct current from a metallic rectifier.

All contactors are cushioned where necessary.

The problem of mechanical noise is tackled as follows:—

The cage gate is of special design, with bakelite track and rubber buffers.

All moving parts, such as switches, gate locks, etc., are rubber cushioned.

The guide shoes have non-metallic linings. The gear is mounted on virgin cork on a foundation of special construction to absorb or disperse any residue of sound or vibration.

The standard single-speed lifts embody all the above refinements, except that the eddy brake is not required.

to be properly flushed up. In the living rooms on ground floor and some artificial insulation to the party wall, a quilt or building blanket behind battens, but *in addition* to the plaster coat, *not as a substitute for it*, and carry it up to touch the floor boards above. Alternatively, use one of the more rigid insulating materials *at least* 1¼ *inches thick* fixed solid to the brickwork and plaster over it. The common practice of placing a ½ inch wall board, advertised as insulating, on battens on the brickwork *and omitting the plaster* is useless. If wall board is used it must be in conjunction with a quilt or building blanket and the plaster coat must not be omitted. Then on first floor run the floor joists not into the party wall but parallel to it, and bearing on back and front wall and on a cross wall or beam. If beam, then where the beam takes a bearing on the party wall it must have an insulated bed. Finally, put cupboards in bedrooms against the party wall on each side of fire breast and reaching ceiling, and don't put a noisy catch on the cupboard doors. Another point of importance is: put w.c. and bath on separate floor joists, forming a floor unit of their own. Don't put cisterns on thin partitions. Don't put mechanical equipment of any kind on party wall. Plan casement windows of adjoining houses so as to open away from each other, not towards each other (or it will be found that conversation can be directed out of one window into another—and how much more, therefore, wireless music). In respect of walls the ordinary 11 inch hollow wall is not a sound insulator, owing to the metal ties, and owing to the air space, it can cause leakage of sound between one house and another. The party wall ought, therefore, to close the gap.

Concurrently with more careful construction tenants of small houses, as of flats, can learn to consider their neighbours. Leases ought to contain clauses such as this: "And also that he will not permit any music or noise whenever occurring and whether by piano, gramophone, wireless, or otherwise, to annoy or disturb other lessees of the landlord or neighbouring owners or occupiers, but will use his best endeavours to ensure that such music or noise shall be heard only within the premises demised" and such clauses must be taken seriously.

And so better quality and more intelligent and *not cheaper* but more expensive building is the first way to tackle noise and housing. We must, from the noise point of view, be on our guard especially against the perishable quality standard house advocated in some quarters. This type of house is always to be manufactured wholesale in sections of some new ply material at a small cost. The great danger of the perishable quality building, in other words of the *shack*, is that it will not provide living conditions at any time in its brief career. On the other hand, the reconditioning of stout old Georgian and Victorian houses with substance in their walls and floors is well worth while from an anti-noise point of view, provided lime plaster is used and the party walls not cut into.

Domestic Services

Noise complaints are fairly frequent even in better-class detached private houses and country houses. One of the reasons is that the modern house is riddled with service pipes, conduits, trunks, wires. Now it is quite useless either in houses or hotels spending money on sound-proofing walls and floors if they are going to be perforated by hot water pipes to radiators, or by ventilation trunks. Therefore in planning it is well to locate sources of noise—pianos, servants' wireless, refrigerators, accelerator pumps, plumbing to w.c.s and bathrooms, vacuum cleaners, electric sewing machines, and relate them to the domestic services. Enlist the heating engineer and the electrical engineer on the side of quiet. Plumbing pipes both in flats and large houses are best taken into special brick shafts so that they do not penetrate floors. Also if telephones are provided in guests' bedrooms the modern thin partitions and thin joisted floors are not sufficiently sound-proof: loud indiscreet conversations are frequently heard by persons in adjoining rooms for whom they were not intended. Extreme cases are found when wooden floors are loaded with partitions.

Generally speaking the better the quality of the building, the slower the time taken over the building processes, and the more attention to planning against noise, the less extra expense is required for sound-proofing. The use of lime mortar rather than cement is desirable because it gives greater discontinuity in the walls as between brick and mortar joint (besides allowing a wall to breathe through its joints and get rid of its moisture). Similarly lime and hair plaster is less of a sound conductor than the hard plasters, and owing to its greater thickness adds mass to a partition and gives more efficient caulking.

Partitions

Partitions present considerable problems in sound transmission. We have from the laboratories certain facts such as the advantage of *mass* and of a dense impervious material, the advantage in double partitions of unequal thickness as between one leaf and another, the necessity of an air space being unbridged and the value of marginal insulation. (Partition blocks are often sold as sound-proof even when they embody the opposites of these requirements.) At the same time there are practical failures to be guarded against. In the rush job, when no workman's interest is to make a good job, but instead to get it done as quickly as possible, one finds block partitions not flushed up on the inside, and also settling on their beds and leaving cracks at the ceiling. I suggest that firms interested in insulation supply a denser and a lighter block (the latter ought not to be lighter than a breeze block) for the two leaves of double partitions. Then I recommend building one of the leaves first, seeing that it is flushed up and covered with quilt or building blanket in order to caulk it thoroughly at margins. The quilt in the air-space probably has also a

certain blanketing effect. Then build the second leaf entirely free of the first. The quilt can also be used for marginal insulation, which is important. The partition must rest on some cork or fibre board and the floor finish must be kept from contact with the partition structure. The two cushioning materials already referred to for floors are useful for partitions also when greater lightness is unavoidable. Also they can be combined with a block in a double partition. In all cases ¾ inch of plaster on faces adds to the insulation.

Church Bells

In respect of town planning it is necessary to beware of aerodromes and keep them at a sufficient distance. The Anti-Noise League is naturally anxious that the 200 new aerodromes shall be planned with some regard to the amenities of residential areas and also of hospitals and schools. In respect both of aeroplanes and church bells the sound can be tolerated at a sufficient distance. The problem of church bells has been discussed in the R.I.B.A. Journal by Mr. Eric Bird: much depends on the proper designing of the belfry: the ringing should escape from well up above the bells, some 6 feet or 8 feet, and new churches ought to have roof openings behind parapets for that purpose. By that means the bell tones are properly mixed and distributed to a distance, at the same time sounding considerably less loud in the immediate neighbourhood.

Bye-Laws

Finally we come to bye-laws and their influence and application. First, the movement among engineers towards relaxing the older bye-laws in favour of slighter structure in steel work and higher stresses must cause a further total loss of mass and solidity and consequently a less permissible margin for increasing the thickness of partitions. Both architects and public are justified in demanding for residential buildings that not a greater noise risk in general practice but a less should be run, while such meagre data is forthcoming on sound conduction and kindred acoustic phenomena. The excellent experimental work of the Building Research Station and National Physical Laboratory requires a much wider reference and more ample subsidising in this respect. Our aim should undoubtedly be to gain sufficient knowledge to enable us to frame a model bye-law as to the minimum sound insulation permitted in a party wall and in the floors of flats and workmen's dwellings. I suggest that the minimum be the equivalent of a 9 inch brick wall, well flushed up and having ¾ inch of plaster on each face. We also badly want a bye-law forbidding the placing of mechanical equipment having rotating parts upon party walls. Finally I suggest that the principle to go upon is this: that where dwellings are concerned the occupier has certain rights of quiet, which ought to be defined, and which must depend upon the noise conditions of the site, at his windows, roof and party wall when he takes possession.

Review of Practice

TOWN PLANNING DEVELOPMENT IN LONDON

The Settlement of Basic Principles as a First Stage in the Consideration of Town Planning Applications

The following letter and memorandum has been received from the Clerk to the London County Council outlining an important modification in the procedure to be followed by applicants for permission to carry out development under the Town and Country Planning (General Interim Development) Order, 1933.

The procedure described only applies, of course, to the L.C.C. area, but the principle involved is of general interest and one which other councils might well be encouraged to adopt.

London County Council,
The County Hall,
Westminster Bridge, S.E.1.
17 July 1935.

To the Editor, Journal R.I.B.A.,—

Sir,—The Council has been considering how best to assist those who intend to develop property in the County of London in making their applications under the Town and Country Planning (General Interim Development) Order, 1933, and particularly how to avoid the needless submission of detailed particulars in certain classes of applications. The Council is of the opinion that in many cases basic principles should be settled before detailed plans and particulars are submitted, and it has accordingly approved the procedure outlined in the enclosed report of its Town Planning and Building Regulation Committee.

This matter will, no doubt, be of interest to members of the Royal Institute of British Architects and I am accordingly directed to ask you kindly to bring the procedure outlined in this report to the notice of your members. It is the Council's hope that this procedure will prove helpful to all those who are concerned with building and development matters.—I am, Sir, yours, etc.,

G. H. Gater,
Clerk to the Council.

(Report submitted to the Council on 16 July 1935)

Report of the Town Planning and Building Regulation Committee (No. 2)

8 July 1935

Town planning applications—Settlement of basic principles

1.—When applications for permission to carry out development are considered under the Town and

Country Planning (General Interim Development) Order, 1933, certain basic principles, *e.g.*, the use, height of building, proportion of plot which may be covered by building, and the building line to be permitted, must be determined before the proposals are examined in detail. It would, in our view, be desirable for applicants to obtain a decision on these basic principles before they prepare the detailed plans and particulars necessary for obtaining a formal decision under the Interim Development Order.

The particulars required for the proper consideration of any application vary in nature and extent according to the character of the proposed development. For instance, proposals involving any departure from the primary use or density zoning should not at first be submitted in the same detail as applications conforming to that zoning. In the former cases there is more likelihood of modifications being required or even of permission being withheld, and the submission of detailed particulars may involve an applicant in a considerable amount of abortive work. On the other hand, it is clear that there are many types of straightforward applications in which the submission of preliminary particulars would cause unnecessary duplication of work and delay both for the applicant and the Council. In all cases it is assumed that an applicant would, by calling at the Council's offices or by other means, acquaint himself with such requirements as are operative, before submitting his proposals.

The principal cases in which preliminary submission for the Council's consideration appear to be desirable are:—

(1) *Applications relating to the lay-out of estates, where the setting out of roads and plots and the siting, grouping and orientation of buildings should receive sanction before working drawings of the buildings are commenced.*

The particulars required in these cases are a general block plan, showing the setting out of the proposed roads in relation to surrounding development, which should be accurately delineated and not copied from out-of-date ordnance maps, the division of land into plots, and as far as possible the size, shape and position of the proposed buildings. The drawings should be to a scale not less than 88 feet to 1 inch. The widths of streets, the set back of frontages and other important dimensions should be correctly figured, and the proposed use and the height of buildings should be stated in an accompanying letter or indicated by words or diagrams on the drawings.

(2) *Applications relating to (i) new buildings or alterations to existing buildings where a departure is proposed from the primary use zoning, or (ii) dwelling-houses, where the proposed density or proportion of site to be covered by buildings will exceed that prescribed.*

(*a*) If the proposed variation from primary use zoning is drastic, or if increases in prescribed density are sought, the first application should be confined to a letter clearly stating the variation desired, with reasons, and a small scale site plan for purposes of identification.

(*b*) Applications to vary from dwelling-houses to flats should be accompanied by a block plan and outline sections, drawn to a scale not less than 44 feet to 1 inch, showing the disposition on the site and general shape, height and number of storeys of the proposed buildings and the levels of the site and the abutting streets in relation to the ground floor. Such dimensions as the set back of the frontage and the distances from the adjoining boundaries should be clearly figured, and the height and character of all adjoining buildings indicated on the block plan and/or sections.

(3) *Applications proposing non-conformity with provisions other than those as to use.*

Where it is desired not to confirm with provisions other than the use (*e.g.*, limitations of height, space about buildings), outline drawings should be submitted to a scale not less than 44 feet to 1 inch, showing by plan and/or sections the nature and extent of the proposal, together with such a block plan as is described under paragraph (2) (*b*) above.

(4) *Applications relating to sites in the area of schemes for which the primary zoning has not been decided.*

If the proposals substantially depart from conditions existing at the material date as regards use, height of buildings, and space about buildings, the particulars referred to in paragraph (2) (*b*) above should be supplied. The material date is the date on which the Council's resolution to prepare the town planning scheme concerned took effect.

It is very seldom that questions of design of buildings, apart from height and lay-out, arise at the preliminary stage, and the submission of elevations does not, therefore, appear to be necessary.

For convenience of filing, and to ensure durability, all plans should be on linen.

We desire to emphasise the importance of consultation with the Council's officers at a very early stage in connection with any major scheme of development, or any wide departure from the existing use or the use tentatively approved for the area concerned.

We are communicating the foregoing information to the professional societies and other bodies representing the interests affected and to the district surveyors and the Metropolitan Borough Councils, who are often consulted by intending developers. We also propose to give publicity to the matter through the press.

H. BERRY, *Chairman.*

The foregoing report was received by the Council on 16 July 1935.

G. H. GATER,
Clerk of the Council.

The County Hall, S.E.1.
July 1935.

A view of the chapel from the south-west. The pale red facings are relieved with dressings of Portland stone

THE CHAPEL OF THE ROYAL HOSPITAL SCHOOL, HOLBROOK, SUFFOLK

Architects: Buckland and Haywood [FF.]

The Royal Hospital School was transferred from Greenwich Hospital to Holbrook in 1933. The buildings and lay-out, which have cost altogether about £830,000, were the result of a limited competition, held in 1925, the late Sir Aston Webb, P.R.A., being the Assessor. The completion of an elaborate scheme of memorial mosaic decorations has delayed the opening of the chapel until now.

THE FORM

The main body of the building consists of three compartments roofed with saucer domes, 42 feet in diameter. The abutments are pierced to form passage aisles; the aisles are continued round the ends, at the west to form a narthex and at the east to give lateral approaches to the Lady Chapel. A projecting block at the east contains at the lower level a porch and baptistry, and at the upper level the organ and a gallery. The apsidal ended Lady Chapel forms a somewhat similar block on the east.

THE STRUCTURE AND FINISH

The walls and abutments are of solid brickwork, with rough-textured facings and some Portland stone dressings. The domes and pendentives are of reinforced concrete, as are also the trusses which carry a roof partly pitched and partly flat.

The interior surfaces are simply finished with a rough-textured, beige-coloured plaster. The joinery throughout is of oak and the floor is of composition (Korkoid) laid in pattern. These plain surfaces and materials form a good foil to the strong colouring of the marble sanctuary and the mosaics of the Lady Chapel.

The high altar stands free under a baldachino of oak, enriched with gold, red and blue. The altar itself is of Roman stone, with a base and top of Ashburton marble. The steps and pavings are a pattern of Roman stone and Staunton stone.

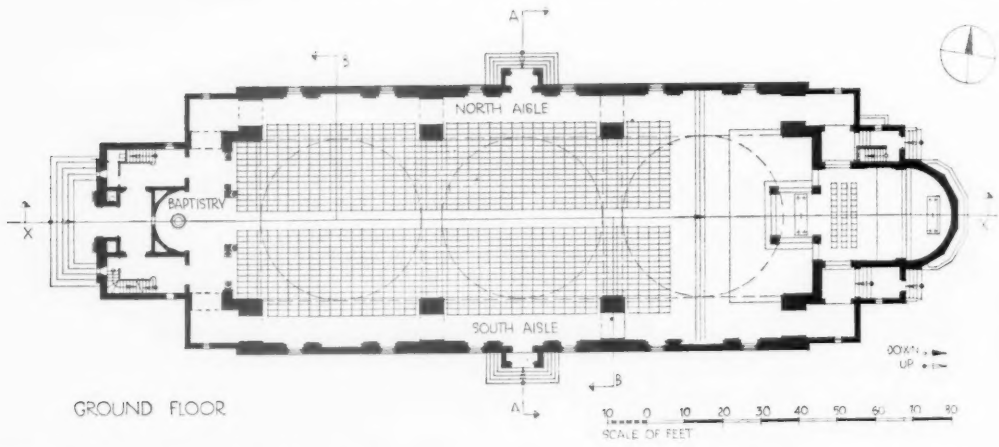
The mosaics of the Lady Chapel are in memory of Mr. Gifford Sherman Reade, who gave the land on which the school is built and bequeathed his residuary estate to the Hospital. They are the work of Mr. Eric Newton.

The pulpit, lectern and chancel of oak and walnut are the work of Mr. Laurence Turner.

EQUIPMENT

The heating is by means of panel pipes buried in the soffits of the domes. These are warmed from the central plant for the school. Lighting is by gilt lanterns suspended from the dome and shining only towards the altar.

The apse of the Lady Chapel, decorated with mosaics by Mr. Eric Newton



GROUND FLOOR

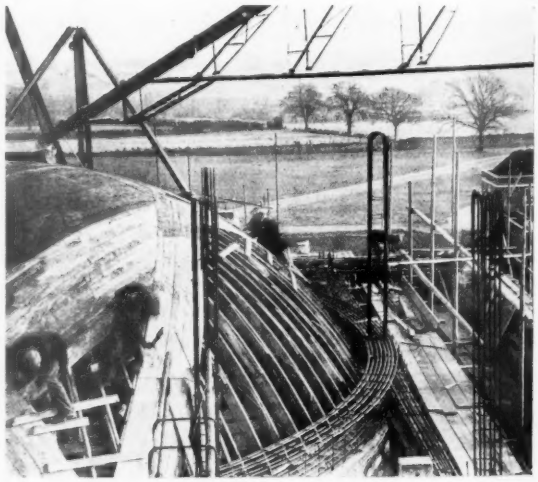
CONTRACTORS AND SUPPLIERS OF MATERIAL

GENERAL CONTRACTORS: J. Gerrard and Sons, Ltd.

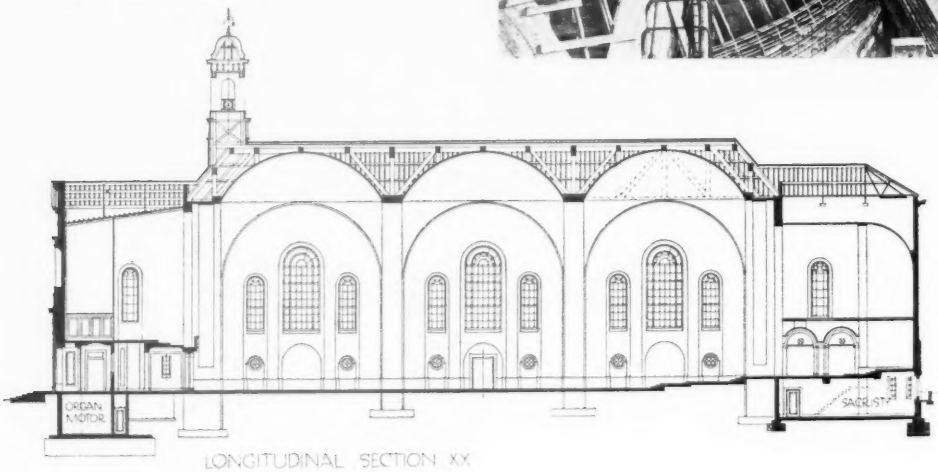
STRUCTURE: Facing bricks, Blockleys, Ltd. Portland stone, The Bath and Portland Stone Firms, Ltd. Reinforced concrete, the British Reinforced Concrete Engineering Co., Ltd. Roof tiles, Ames and Finnis.

STRUCTURAL FINISH: Leadwork and cross on cupola, etc., H. H. Martyn and Co., Ltd. Lead glazing and stained glass, Henry Hope and Sons, Ltd., and R. J. Stubington. Lead rainwater goods, The Birmingham Guild, Ltd. Wood carving, William J. Bloye, Terrazzo, Lyne and Sons, Ltd. Marble work, W. H. Fraley and Sons, Ltd. Ventilation, British Knapen, Ltd. Composition flooring, Korkoid Decorative Floors, Ltd.

EQUIPMENT, ETC.—Panel heating, Richard Crittall and Co., Ltd. Light fittings, Smith and Ansell, Ltd. Seating, the Bennett Furnishing Co., Ltd. Organ, Wm. Hill and Son and Norman and Beard, Ltd.



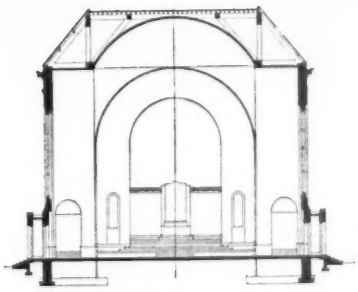
The photograph on the right shows one of the reinforced concrete saucer domes under construction



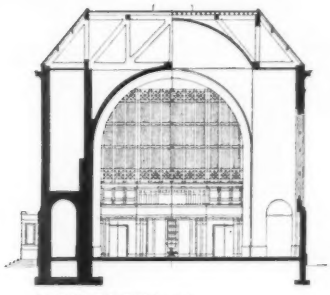
LONGITUDINAL SECTION XX

["Architect and Building News"

The interior is finished with rough-textured, beige-coloured plaster. The gilt lanterns shine towards the altar, which stands free under a richly decorated oak baldachino



CROSS SECTION AA



CROSS SECTION BB

Review of Construction and Materials

This series is compiled from all sources contributing technical information of use to architects. These sources are principally the many research bodies, both official and industrial, individual experts and the R.I.B.A. Science Standing Committee. Every effort is made to ensure that the information given shall be as accurate and authoritative as possible. Questions are invited from readers on matters covered by this section; they should be addressed to the Technical Editor. The following are addresses and telephone numbers which are likely to be of use to those members seeking technical information. There are many other bodies dealing with specialised branches of research whose addresses can be obtained from the Technical Editor. We would remind readers that these bodies exist for the service of Architects and the Building Industry and are always pleased to answer enquiries.

The Director, The Building Research Station, Garston, Nr. Watford, Herts. Telegrams: "Research Phone Watford." Office hours, 9.30 to 5.30. Saturdays 9 to 12.30.

The Director, The Forest Products Research Laboratory, Princes Risborough, Bucks. Telephone: Princes Risborough 101. Telegrams: "Timberlab Princes Risborough." Office hours, 9.15 to 5.30. Saturdays 9.15 to 12.

The Director, The British Standards Institution, 28 Victoria Street, London, S.W.1. Telephone: Victoria 3127 and 3128. Telegrams: "Standards Sowest London." Office hours, 9.30 to 5. Saturdays 9.30 to 12.30.

The Technical Manager, The Building Centre Ltd., 158, New Bond Street, London, W.1. Telephone: Regent 2701, 2705. Office hours, 10 to 6. Saturdays 10 to 1.

NOISE MEASUREMENT IN ST. JOHN'S COLLEGE, CAMBRIDGE

BY DR. J. D. COCKCROFT AND A. M. P. BROOKES, B.A.

The ever-increasing volume of motor traffic through the streets of Cambridge has led to an investigation of noise intensities in the neighbourhood of St. John's College with a view to obtaining information as to the relative noisiness of different sites and in particular to determine the importance of distance from the street and of screening by buildings in reducing the noise level.

Measurements have been made by a noise meter loaned by the Standard Telephones and Cables, Ltd., and are expressed in the standard units, decibels. The most disturbing and most frequent noises were found to come from the acceleration of buses which pass the college every few minutes; measurements were therefore made on the loudest bus noises, the average of the readings on about 12 buses being taken.

In the quietest courts of the college, 400 feet from the street, the intensity in decibels was 28, the figure given for the quietest London street. At this point it became difficult to distinguish bus noises from the general background noise, so that 28 really corresponds to the zero of bus noise. In the college rooms along the street front, on the other hand, the noise level was 70 decibels. A change of one decibel is the least change which can be detected by the ear under perfect conditions. A change of 20 decibels corresponds to an increase of 10 in actual sound energy; a change of 40 decibels to an increase of 100. The sound energies along the street front are thus 100 times the intensity in the quietest courts and are equal to the noise in a busy London street, although, of course, the noise is not continuous as in the London area.

All the measurements taken have been entered on the plan of the college appended, and from these it can be seen how distance from the street diminishes the noise intensity. Thus, measurements at positions one, two and three taken in a garden facing the street screened only by a 10 feet wall, the distance from the street being 0, 60 and 120 feet respectively, gave values of 68, 52 and 36 decibels. Thus a set back of 120 feet in the position reduces the noise by 32 decibels, corresponding to a factor of 40 in actual sound energy and brings the noise down to a tolerable level.

Measurements were also taken in position three to determine the diminution in the noise made by a bus as it passed behind the screen of buildings along Bridge Street. Measurements were compared when the bus was at two positions: one at position four unscreened and the other at position five. The results show that the interposition of the screen of houses reduces the noise level by about 5 decibels. The measurements taken in position six, on the other hand, in a yard behind the houses of Bridge Street, show a diminution of the intensity from the street intensity of 68 to 38 decibels. This reduction is due in part to the set back of 80 feet, this effect being estimated at 20 decibels. The effect of the screen is thus estimated at 10 decibels or a reduction equivalent to a set back of 40 feet.

Some of the measurements were made inside college rooms and were taken with the windows both closed and open. The effect of closing the windows facing the street in position eight and in most other positions was to reduce the noise level by about 12 decibels.

A comparison of the noise made by different vehicles gave the following order of nuisance:—

Lorry	68
Bus	64
Motor Cycle	64
Private Car	56

The worst lorry gave a reading of 74 decibels. These measurements refer, of course, only to the high frequency noises which disturb the amenities of college life. It would be of equal interest to measure the lower frequency vibrations which destroy our college buildings, but so far time has not allowed of such measurements being made.

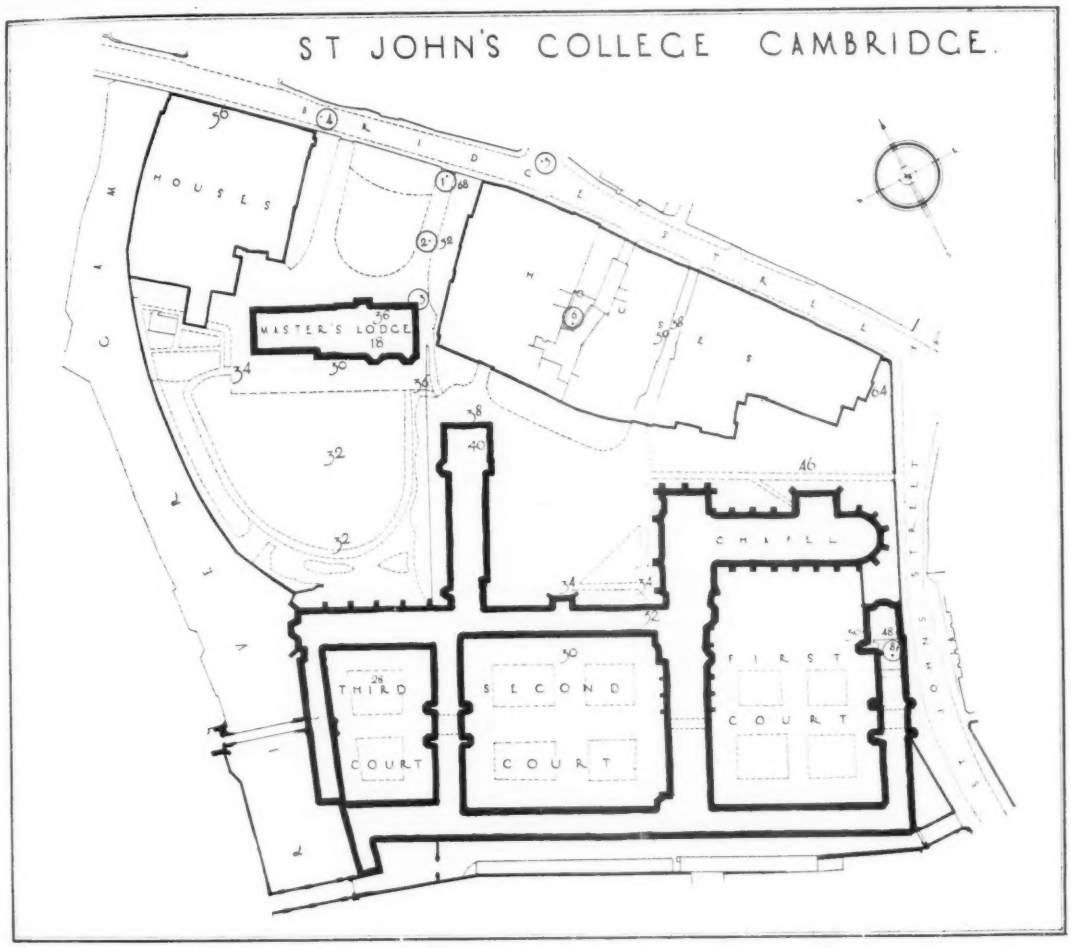


Diagram showing sound intensities in decibels in various parts of the College and the adjoining old buildings in Bridge Street

CORROSION OF LEAD

The Building Research Station have issued a revised edition of their small but useful bulletin* dealing with the prevention of lead corrosion. The new edition is substantially the same as the first (published in 1926), but can be regarded as a restatement of the facts in the clearer light of present-day knowledge. It is perhaps worth while restating briefly the principal cases of use in which corrosion can occur as well as the suggested preventives. Fortunately the former are few in number and well defined, and the latter practical and easily applied on the job.

It has long been common knowledge that lead, though normally a building material of unusually long life, can under certain conditions corrode with extreme rapidity. The three most important cases in which such corrosion is liable to occur are as follows:—

1. *Corrosion by Lime and Cement.* Dampcourses may decay with extreme rapidity (15 years in one quoted case), due to the combined operation of moisture, oxygen and lime derived from mortar, either lime or Portland cement. With the passage of time the mortar becomes innocuous owing to the atmospheric carbon dioxide converting the lime into calcium carbonate. It is something of a race against time between the carbonating action and the resistance of the lead. Trouble is more usually found with cement mortars, because Portland cement carbonates more slowly than does lime.

**The Prevention of Corrosion of Lead in Buildings. Building Research Bulletin No. 6.* (Second edition, revised.) By F. L. Brady, M.Sc., A.I.C. H.M. Stationery Office. Price 3d.

It is suggested that the lead be coated with bitumen as a protection, or alternatively that a compound dampcourse material of lead interleaved between bitumen-impregnated hessian be used, provided the lead is not reduced to foil thickness. Lead pipes in walls may be protected by wrapping with bitumen felt or, in the case of short lengths of pipe in interior walls above dampcourse, with brown paper. In some cases it may be worth while using aluminous cement, which has a low lime content.

2. *Corrosion by Timber.* Timbers, particularly oak, can cause corrosion of lead where moisture is present (*e.g.*, because of roof leaks or defective gutters). The use of insufficiently seasoned timber may have a similar effect. The corrosion is due to the moisture carrying acids, which resemble acetic acid in their action, from the timber to the lead.

The obvious course is to construct lead roofs soundly so that leaking and creeping of moisture are prevented. Where lead is laid direct on oak boarding it is safest to place a layer of bitumen felt between the two materials.

3. *Corrosion by Soil.* Certain soils have a corrosive action on lead (usually in the form of water supply pipes). These soils are commonly either peaty or made-up ground containing coal ashes or decaying vegetable refuse.

Three methods of protection are suggested. The pipe may either be packed round with chalk, limestone or old well-carbonated mortar; it may be spirally wrapped with a bitumen-impregnated felt; it may be coated with bitumen paint. The second course is indicated to be the best.

FIRE-RESISTING EMPIRE TIMBERS

With a view to extending the use of selected Empire timbers for building and other purposes, the Imperial Institute Advisory Committee on Timbers some time ago submitted to the London County Council for tests a number of Empire timbers considered as likely to offer a marked degree of resistance to fire. The following were in due course approved as fire-resisting materials: Iroko and African Walnut from British West Africa, Mora and Crabwood from British Guiana, and Andaman Padauk.

Recently the Advisory Committee submitted a further series of selected Empire woods for similar tests and the following have now been approved by the London County Council for use as fire-resisting materials under the London Building Act: Queensland Maple, Sekondi (Seccondee) Mahogany from the Gold Coast, Pyinkado from Burma, Andaman Pyinma, Red Meranti from the Federated Malay States, English Ash.

Samples of the woods may be seen and information regarding them obtained at the Imperial Institute, South Kensington, London, S.W.7.

The following notes on these timbers have been supplied to the R.I.B.A. JOURNAL *by the Director of the Forest Products Research Laboratory.*

QUEENSLAND MAPLE

Queensland Maple, *Flindersia Brayleyana* F. Muell., Rutaceæ, is a light pinkish-brown wood, of medium texture and hardness. Its weight is about 36 lb. per cubic foot, air-dry. It works well, takes a good finish, having a natural sheen and a beautiful polish. It also takes stains satisfactorily. It is also reputed to have satisfactory bending qualities. It is not durable when used in contact with the ground or in places exposed to the weather unless some preservative treatment is given to it. It is chiefly used for decorative interior work, cabinet making and high class joinery.

SEKONDI

Sekondi or Seccondee Mahogany is so called after the port on the Gold Coast from which it is shipped. It is possible that more than one species may be included in shipments of this mahogany, but a large proportion of the shipments consist of *Khaya ivorensis* A. Chev. The trees of this species attain a large size and the boles are buttressed, the buttresses stretching for 10 feet or more from the ground up the boles.

The wood is moderately heavy, the weight being about 35 lb. per cubic foot in the air-dry condition, and the grain is frequently interlocked, producing a striped or ribbon figure when quartered. The heartwood is generally pinkish when freshly cut, but quickly takes on a typical mahogany colour on exposure. Cross-fractures or "thunder shakes" are frequently met with in the timber, which, while varying to some extent in hardness and working qualities, generally works readily and fairly well, apart from some tendency for the grain to "pick up" in planing, in timber with pronounced alternating grain or stripe. It may be cut into veneers, usually turns well, and takes a good finish.

It is available in logs, generally squared, from 12 to 20 feet in length and of sides of 24 inches and upwards.

PYINKADO

Pyinkado or pyingado, *Xylia dolabriformis* Benth., is the timber of a large tree which attains a height of 100 to 120 feet and a diameter of 9 to 12 feet. It grows in the lower hill forests in Burma along with teak. The wood is very hard and heavy (over 60 lb. per cubic foot, air-dry), dark, reddish-brown in colour in the heartwood, somewhat cross-grained, though with a moderately fine, even texture, and capable of a fine polish. It is reputed to be extremely durable, and when dry is equally hard to work, blunting the tools rapidly. It turns well but does not take glue very satisfactorily.

It is obtainable in squares up to 40 feet long and of 16-inch side.

ANDAMAN PYINMA

Andaman Pyinma, *Lagerstroemia hypoleuca* Kurz, of the family Lythraceæ, is a medium-sized tree, 60-90 feet in height and up to 9 feet in girth. The wood is heavy (about 48 lb. per cubic foot, air-dry), hard, strong and is reputed to be durable. The sapwood is greyish to pinkish in colour and the heartwood light reddish brown. The wood shrinks considerably in seasoning. It works without difficulty, turns well and takes a good polish.

It is obtainable in squares 12 feet to 30 feet long and of 12-inch to 30-inch sides.

RED MERANTI

Red Meranti is the name under which the timber of several Malayan species belonging to the genus *Shorea*, of the family Dipterocarpaceæ, is marketed. It resembles more or less closely the red lauan from the Philippines. The trees are large, sometimes running to bole lengths of 70 or 80 feet clear of branches and up to 5 feet in diameter. The timber varies in weight from 25 to 40 lb. per cubic foot and in colour from yellowish or pinkish brown to dark reddish brown. It is not particularly durable in contact with the earth, but works well and takes a good finish.

ENGLISH ASH

English Ash, *Fraxinus excelsior L.*, is too well known to require detailed description. It is strong and tough and is one of the best timbers for steam bending. In building work its use is generally confined to furniture.

THE DESIGN OF BELFRIES

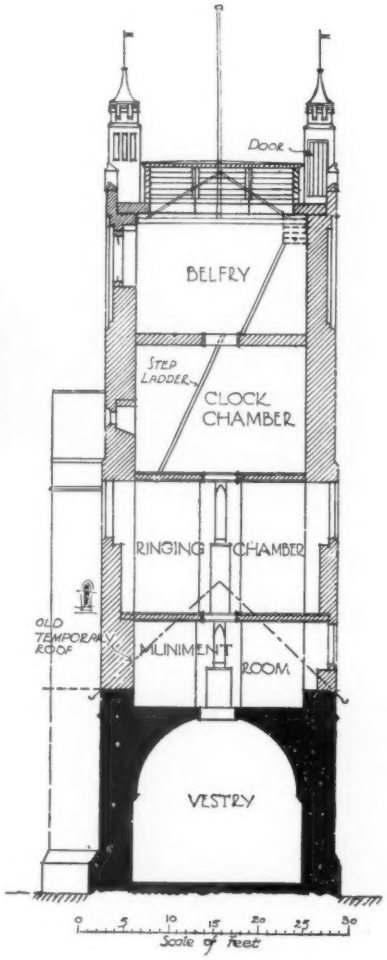
All Saints' Church, Basingstoke, by Temple Moore—an interesting design of a windowless belfry with a louvred wooden spire providing openings for the emission of bell music

ACOUSTIC CONTROL OF BELL MUSIC

Some information additional to that published in the JOURNAL of 29 June has been supplied by Mr. E. J. May [*F.*]. He has drawn our attention to an article published in *The Builder* of 12 June 1931 in which the tower of the Church of the Annunciation, Chislehurst, was illustrated. In this tower, designed by Mr. May, there are no windows in the bell chamber, the sound escaping through an octagonal wooden lantern roof. The lantern is 5 feet high and the openings are fitted with louvres: the floor of the bell chamber is 15 feet below the flat roof of the tower. When the church was erected the base only of the tower was built to a height of 16 feet. Mr. May raised it to 80 feet; hanging in the bell chamber a single bell, which had previously been fixed elsewhere on the building. It was reported that in the new position the bell had both improved tone and increased range. A full peal is now being installed. The floors shown in the illustration from *The Builder* of the Church of the Annunciation are not specially soundproofed; they are of stout wooden construction with flooring well fitted to the walls on all sides. Mr. May tells us that they are effective in stopping the sound from the present single 9¼ cwt. bell, which has replaced the smaller bell referred to above, which was hung when the tower was first built.

In discussing the advantages of this design of tower, the article cited three somewhat similar examples. Romney Abbey crossing tower has a central wooden lantern from which bell music is emitted; the old church at Otford in Kent has a wooden spire with four dormer-shaped openings, fitted with louvres, just above the parapet; in All Saints' Church, Basingstoke (see illustration), Temple Moore produced a remarkably interesting louvred spire of wood.

These three last designs should give good tone to the bell music and wide range. But owing to the fact that the louvred openings are not masked by the parapet in any of them, the loudness in the immediate neighbourhood of the tower is not likely to be less than with louvred windows. The section of Mr. May's church at Chislehurst shows how this masking should be done. Mr. May also points out in his letter the desirability of having a floor between the bells chamber and ringing chamber which is made specially sound-resistant. This allows the ringers to hear the orders of their leader.



Section of the Church of the Annunciation, Chislehurst, showing the louvred lantern roof

Both blocks lent by "The Builder"

[*A letter from Mr. Wilfrid Bond* [*F.*], *on the subject of Belfries, appears in Correspondence on p. 1058.*]

Book Reviews

AN APPROACH TO ARCHITECTURE*

You will open this little eighty-page book, jacketed by that versatile Hungarian L. Moholy-Nagy, and translated by that versatile Englishman P. Morton Shand, with a pardonable measure of excitement. If you are expecting a rhapsody on brave new worlds or a confession of modern faith you will be disappointed. You will find instead the cold, almost unemotional, analysis of an approach to architecture which reveals an intellect of outstanding integrity. Gropius is not concerned with the migrations of fancy, with those vague and fashionable movements which perplex the amateur. He is concerned with standards of that New Architecture which is the "inevitable logical product of the intellectual, social and technical conditions of our age." To explore these standards he has sacrificed his personal freedom, and by so doing has helped to liberate us from the funereal weight of convention on the one hand and from mechanistic anarchy on the other. The mouthpiece of his salutary influence was, until recently, the Bauhaus—laboratory for art and industry properly related.

Walter Gropius was born in Berlin in 1883. Like Corbusier, Mendelsohn and others, he worked for a time in the office of Peter Behrens whose industrial architecture, in particular the A.E.G. Turbinenfabrik of 1909, was the inspiration of the younger European architects. As early as 1911, in collaboration with Adolf Meyer, Gropius designed the Fagus Boot-Last Factory at Alfeld-an-der-Leine. It was appropriate that the new architecture should find its feet in industry. In 1914, Gropius and Meyer again collaborated on the administrative building of the Cologne Werkbund Exhibition, rightly regarded as one of the landmarks of the new movement. Then after the war Gropius was invited to take over the Weimar School of Arts and Crafts which the Belgian architect Henri Van de Velde had founded and the directorship of which he had relinquished on the outbreak of war. It was this school which became the Bauhaus, the international fame of which dates from its removal to Dessau in 1925. The town council of Dessau made possible the erection of an entirely new building to house the school and this, together with a labour-exchange and housing colony, Gropius designed. It was a magnificent opportunity to provide a workshop in keeping with the outlook and organisation of the institution. Gropius realised this. The building speaks for itself. Unfortunately, among the sixteen pages of illustrations in the book, there are no interiors of the Dessau workshops and studios. Illustrations are to be found, however, in *Bauhausbücher* 12, published by Albert Langen Verlag 1930. From a glance at these interiors you will appreciate the enlightened conditions under which the Dessau students worked. Bright, clean surrounding produced, as one would expect, bright, clean designs.

Summing up the Bauhaus approach, Gropius writes: "Believing the machine to be our modern medium of design, we sought to come to terms with it. But it would have been madness to turn over gifted pupils to the tender mercies of industry without any training in craftsmanship in the fond hope of restoring 'the lost chord' between the artist and the world of work. Such idealism could only have resulted in their being overwhelmed by the narrow materialism and one-sided outlook of the modern factory."

We are now familiar with the products of this balanced approach to industrial design—the right kind of mass-productions for everyday use. During their course, the Bauhaus students served with manufacturing firms, and these firms soon realised the value of the school's design-research. Licences were taken out for the mass-production of Bauhaus models for furniture, carpets, textiles, china and lighting fittings. The royalties from these licences contributed to the revenue of the school.

Gropius describes the work of the school under the headings: Preparatory Instruction, Practical and Formal Instruction, Structural Instruction. In this small book he tells us sufficient to whet our appetite for a more detailed account of the Bauhaus training—particularly the training given for the Master-Builder's Diploma. There is at present no school in England where training for Industrial Designers, Builders and Architects can be co-ordinated. The rapid industrialisation of building makes the need for such a school increasingly urgent, and in this connection the detailed experience of the Bauhaus would be a very valuable guidance.

Apart from the Bauhaus Gropius devotes his book to the subjects of Standardisation and Rationalisation, particularly in their application to architecture. Gropius has been one of the pioneers of experiment in the mass-production of housing on the Continent. At the Weissenhofsiedlung at Stuttgart in 1927 he designed a small experimental house constructed entirely of standardised pre-fabricated materials and demonstrated the value of a complete factory method for the building industry. Rationalisation of this kind shows the way for future architectural development. His general remarks about the new movement in architecture are restrained and to the point. There are many who still believe that changing forms and architects are

* *The New Architecture and the Bauhaus.* By Walter Gropius. London: Faber and Faber. 1935. 6s.

products of fashionable exploitation. That element is not uncommon, but no thinking person confuses fashion with technique and, as Gropius emphasises, it is technique that matters:

"Our fresh technical resources have furthered the disintegration of solid masses of masonry into slender piers, with consequent far-reaching economies in bulk, space, weight and haulage. New synthetic substances—steel, concrete, glass—are actively superseding the traditional raw materials of construction. Their rigidity and molecular density have made it possible to erect wide-spanned and all but transparent structures, for which the skill of previous ages was manifestly inadequate. This enormous saving in structural volume was an architectural revolution in itself."

RAYMOND MCGRATH [*A.*]

EARLY VICTORIAN ENGLAND, 1830–1865*

The dispassionate scrutiny necessary for the writing of true history is, it is said, only possible when the events to be recorded have receded sufficiently far into the past. What constitutes the past, however, is not so much the lapse of years as the degree of change, mental, moral and material. In the last hundred years, we have moved so fast and so far that historical detachment comes more quickly and easily towards an age that, if not relatively very distant, seems now rather remote. The editor of this book sees in the 'sixties of the last century a decade of swift, decisive transformation. "In front of them lies the world in which we were born. Behind them is a world which has passed out of knowledge." It is this latter world that these two volumes seek to recall, by presenting its life against a background of habits and ideas, sights, sounds and scenery.

The chapters range in subject from the arts and the services to holidays, emigration, and other diverse topics, so that the picture is a composite but a very complete one. Its virtues are just those of a good Victorian painting—wealth of detail, faithful representation of the facts, opulence of colour, objectivity of vision. A crowded canvas, but intimate and revealing.

To-day, when the word "Victorian" is rapidly ceasing to bear a suggestion of reproach, "Early Victorian" enjoys almost the odour of romantic sanctity. No analysis of the period, however, has yet appeared so comprehensive and penetrating as this, and no doubt, so far as this book is concerned, its reward will be acceptance for some time ahead as a singularly well-informed study of the subject. So far as Early Victorianism itself is concerned, the effect may be to heighten some of the romance, but to destroy some of the picturesqueness.

The age was romantic in two ways. The expansion of the railways was proceeding in the midst of surviving feudalism; the growth of the towns was taking place among a people still firmly country-minded. What was venerable with age jostled with what was exciting with novelty. But while one reflected the past and the other beckoned to the future, the balance of the two was not yet so uneven as to make the conflict uncomfortable.

On the other hand, any tendency to idealize the age unduly must be tempered by remembrance of some of the material disadvantages under which it laboured. The scourge of cholera afflicted it with an ever-present dread, and other diseases, if less serious, were all too common. Nor is this surprising in view of the conditions of living for large sections of the population, which, judged by present standards, were grossly unhealthy. The Londoner of 1830–1850, we are told, was never really well. "He was driven forward by native energy, a flood of strong drink and insensitiveness." The rates of mortality show how in the big cities, as compared with more open districts, bad housing, inadequate sanitation, often the lack of a proper water supply, and the filthy condition of the streets themselves combined to make the survival of the fittest a grim and exacting reality.

It is because the chapters on Town life in London and the new cities, on Country life and Homes and Habits, bring out the mingling of refinement and primitiveness that they ought to be read in conjunction with the valuable chapter on architecture. As Professor Richardson points out, it is necessary to differentiate between the finer aspects of nineteenth-century building and the mass of work which represents the Victorian vernacular. The two were widely separated. Architecture proper assumed an expression far removed from that of contemporary utilitarian building and anything but suggestive of the mechanical progress of the time. It was an extension of the dilettantism of the preceding age, because it could not very well be anything else. Architects had strayed into a rarefied world, primarily under the influence of the Greek revival, and in solving the new problems of industrial building their help was neither asked nor desired. Architecture was left to serve two masters, God in the form of the Church and Mammon in the form of Wealth, manifesting itself in public buildings and private houses. The simile is not inapt, because the real contention in Victorian architecture was quite as much Christian *versus* Pagan as Gothic *versus* Classic.

At this distance of time the Battle of the Styles seems rather artificial and absurd, but it was waged on both sides by men who were no inconsiderable artists, and in this well balanced account justice is done both to their powers and achievements. But Professor Richardson has done well to include also a serious estimate of Victorian furniture and decoration, and to draw attention to the small but, for us to-day, interesting examples of

**Early Victorian England, 1830–1865.* Edited by G. M. Young. 2 vols. London: Oxford University Press. Humphrey Milford. 1935. 42s.

Victorian town planning. Such speculative developments as Decimus Burton carried out, notably in the Calverley Park Estate at Tunbridge Wells, are one of the most delightful legacies that the nineteenth century has bequeathed to us. Similar developments elsewhere, usually in the Anglo-Italian, but occasionally Gothic, manner, serve to show that it was not, as is too often imagined, artistic bankruptcy that turned Victorian England into a bleak desert, first of dullness and then of ugliness. It was the utter incompatibility of the discipline of art with "the tyranny of universal freedom." Early Victorian England experienced the first impact of the forces of order, planning and control against that great drift which is excused as the inexorable march of progress. Well may Professor Richardson speak of "the callousness of the Victorian ideal, that immensity of purpose which neither statesmanship could control nor artistry adequately express." We know to our cost it has visited the sins of the fathers upon the children unto the third and fourth generation.

S. E. Dykes Bower [*A.*]

WESTMINSTER ABBEY

Westminster Abbey. *By A. L. N. Russell, F.R.I.B.A. Published by Messrs. Chatto and Windus, London. 1934. Price 6s.*

"Of making many books there is no end." Nor can there be when the subject is Westminster Abbey. The past gives up its secrets with reluctance and each generation of worshippers, artists and historians needs a guide who will relate in the language of his own period all that is known.

Mr. Russell's book is popular in the best sense of the term. Informative and entertaining, it makes attractive reading, and eminently is suitable for taking on a holiday. The author singles out interesting items from a massive subject, and by sharp contrast or vivid parallel has the knack of impressing them upon the mind.

I found so much in this book that I did not know before that I hesitate to comment at too great a length upon the subject matter. But several facts emerge. Much is compressed within the narrow limits of 220 pages. We have, as it were, a random snapshot of the Abbey during the Middle Ages (Chapters VI—VIII), a section on the monks (Chapters IV and V), the early and later history of the Abbey, together with an account of the Shrine (Chapters I, II, III, IX and X). Chapters XI and XII deal exclusively with Architecture. Chapters XIII—XIX constitute a full description of the interior and should accompany a tour of it. Chapter XX deals with the Abbey to-day, and it is followed by two appendices giving respectively a list of the Abbots of Westminster and the Contemporary Sovereigns and a list of books about Westminster Abbey.

There is an index and a foreword by Mr. Lawrence Tanner, the Keeper of the Muniments. Thus a section of the book is devoted to the monastic institution, and if a trifle long it is a tribute to the original Westminster Abbey—the faith, the zeal and the discipline of the monks founded in an age of barbarism a group of buildings which is, at Westminster, still in use, nearly 400 years after the departure of the last Abbot.

Controversial matters are not stressed, and this fact is, in a book of this kind, perhaps all to the good. The Abbey has its problems, but in a book which may well hope to attract, to entertain and to educate the solution of problems is out of place. It is possible to read through the book almost without entering into an argument. Such a quality is best suited to promote that atmosphere of peace and poise which the author needs for the straightening out of the complex of historical architecture, royal sepulture and the crowning of kings, religious custom and the life of a school. Otherwise, "Should we not"—in his own words—"emerge jaded and miserable, with our heads in a whirl and a general feeling of depression!"

Returning to the book, a little more about the architecture would perhaps have been welcome, for Gothic is the grammar of Westminster, imparting to it cohesion, and it is, in fact, the shell of the fabric which ought to be better understood by the public. If a word on the present structure and its decay leads to a donation, it is a useful word. Chapters XI and XII might perhaps have been at greater length, or some of the diagrams therein might have been larger in size. There are twelve good photographs. There are also half a dozen diagrams and plans. For some reason, a general plan appears on the inside of both the back and front boards, and it stops short just within the entrance to the Dark Cloister. Could not one such plan have been provided, no smaller in scale, extending further south, and made to fold against one of the boards?

Still, I can commend this book to anyone who, like myself, wants to learn something and, at the same time, is glad to find a book which can brighten the hours of leisure.

I should like to see copies of it deposited in various parts of the Abbey, so that the visitor may "read, mark and learn."

D. M. M.

SEVENTEENTH-CENTURY MASONS

The London Mason in the Seventeenth Century. *By Douglas Knoop and G. P. Jones. Manchester University Press. 1935. 5s. net.*

In their book, *The Medieval Mason*, published in 1933, these learned and industrious authors provided serious students with a wealth of first-hand information about the conditions under which buildings were produced in the Middle Ages. It was at once recognised by critics as a work of fundamental importance, admirably arranged, and free from the romantic bias which has lessened the value of certain other treatises on this subject. The authors were not concerned to prove, on the one hand, that the medieval mason was an inspired product of the monasteries, untrammelled by such sordid considerations as wages, hours of work, labour regulations, instructions from architects, plans, estimates, or contracts. Nor did they attempt to disparage the reputation of the monastic craftsman by ascribing everything to lay talent. They concentrated on matter-of-fact reliable evidence, and their volume properly bore the sub-title: "An Economic History."

In this smaller and more recent study they carry their investigations into the seventeenth century, thus covering the work of Inigo Jones, Sir Christopher Wren, Sir Roger Pratt and other architects of less celebrity. They confine themselves to London, but London in the seventeenth century was such a scene of building activity—partly as a result of the Great Fire, partly because of the concentration of royal and national building in the City and its outskirts—that what was true of London was applicable in less degree to other parts of England at the time. Their principal primary sources of information are the records and books of the Masons' Company, and the accounts for London Bridge (1652–1694), the Banqueting House in Whitehall, St. Paul's Cathedral, and Winchester Palace. They also draw freely on the recent publications of the Wren Society for Hampton Court and Greenwich, on Dr.

Gunther's life of Sir Roger Pratt, on Mr. W. L. Spiers' Walpole Society monograph for Nicholas Stone, and on such seventeenth-century writers as Gerbier and "Philomath" for things in general. Thus they have availed themselves of all the chief authorities, and their researches have been meticulous. The book serves two purposes. It includes a large number of biographical notices, including all the chief master-masons and mason-contractors working in London during the century, and thus giving a personal and human character to the subject. But, valuable as that is, the chief merit of the book lies in the light it sheds on the methods and conditions prevailing at the time. The position taken up by the Masons' Company in relation to "foreigners," trade monopoly, "demarcation" (as we call it nowadays), and inferior craftsmanship is clearly stated. The status of master-masons, mason-contractors and "overseers" is examined; and the relation of the mason to the quarry-owner, so admirably explained in the authors' previous book, is here followed up into the period of Wren.

The question of contract-work and direct labour is discussed, the authors coming to the conclusion that direct labour was largely replaced by contract labour on important buildings during the century. The nature of contracts, *e.g.*, at St. Paul's, is stated; and the interesting problem of finance, with or without the help of banks such as Child's and Hoare's, receives a good deal of attention. Apprenticeship, wages, the position of the architect and surveyor, and the preponderance of country masons on the various contracts at St. Paul's are other economic matters dealt with; while there are many minor or incidental details of interest, such as the admission of women to the Mason's Company, cycles of trade depression, and the importance of Oxfordshire as a nursery of distinguished craftsmen. Altogether, this book is an indispensable addition to the history of building economics in the past, at a time when masonry was a live and flourishing craft.

MARTIN S. BRIGGS [*F.*]

A PICTORIAL RESTORATION OF TINTERN

TINTERN ABBEY, THEN AND NOW. *By Arthur E. Henderson, F.S.A., F.R.I.B.A., R.B.A. London: Simpkin, Marshall. 1935. 2s.*

This little book, with 22 illustrations, aims at reproducing pictorially the former beauty of one of our loveliest abbeys. This aim has been successfully achieved. Mr. Henderson's method is to show on one page a photograph of the ruin in some particular aspect and on the opposite page his own careful restoration. By this means one can check the imaginative drawing by the reality so far as it exists. As matter of fact, as regards the church itself, the artist could easily justify almost all the details shown but those of the central tower and of the various stone screens. As nothing of the tower except the arches of the crossing and the spandrel walls between them remains, no one can be sure what was the design of the superstructure. We know that the Cistercians were enjoined to eschew display in towers as in other matters, and that the fine tower at Fountains is an exceptional example due to a falling away from the Rule of the Order. Mr. Henderson has adopted a west country type such as we see at Pershore, which, however, was a Benedictine abbey.

At Tintern the position of the stone screens is clearly marked on the piers of the arcades. There was not only the usual screen in the nave forming the termination of the lay brother's choir, and the Pulpitum a bay farther east, but an almost continuous series of side screen walls between the arches of the arcades (these last have been intentionally omitted in the views). The aisles thus become processional ways only in contrast to those of the Cistercian abbey of Buildwas, where they are crossed by no fewer than five screens to form chapels. Mr. Henderson shows the stone screen wall behind the High Altar at an unbroken level of about 8 feet only. He would doubtless say that there was no evidence that the centre portion was raised; but it leaves this altar with no predominance over any of the others except in width. He seems rather under the spell of the great east window, which, however, is two bays beyond.

The author proposes to follow up this work with others dealing with Melrose, Glastonbury, Fountains, Dryburgh, Whitby, etc., "and the great Norman Abbey of Edward the Confessor at Westminster." One wishes him equal success in this ambitious programme, but in the case of the last named imagination will have to play a large part, for authorities are not even agreed upon its plan.

F. HERBERT MANSFORD [*F.*]

SWIMMING BATH WATER PURIFICATION

SWIMMING BATH WATER PURIFICATION. *By F. Wilkinson and F. J. Forty. London: The Contractors' Record, Ltd. 1935. 12s. 6d.*

Here is the opportune! A most valuable factor in the direction of swift moving progress, when needs become suddenly imperative.

The necessity of providing facilities for communal bathing and swimming has asserted itself with increasing vehemence for a number of years and is now so insistent that new construction or alterations in bath premises and apparatus are proceeding everywhere with more regard to immediate provision than to permanent satisfaction.

The authors of this work are civil engineers, holding executive posts in local government, and they have produced this compendium of authoritative guidance, utilising the results of intensive scientific research and specialised experience in the light of demand, cost, efficiency and public health.

They do not pretend to preach to architects the technique of building design and construction, but their work will be of the highest importance to architects, engineers and administrative personnel who may be occupied in the provision of communal bathing establishments and their maintenance and management.

The premises of their treatise are calculated to introduce into the mind the whole *raison d'être* for the special precautions which buildings, apparatus and personnel are to render effective.

This by itself is a sufficient reason for the earnest attention of technicians.

The book proceeds, however, in ideal arrangement, to solve the problems which it brings to notice. Throughout there is a nicely balanced sense of proportion, and the question of cost is not lost sight of in the exhortation to the ideal.

The very latest systems of plant and selections of chemicals, the most modern variations in design and equipment are fully described and discussed without bias, and with a forthright regard to the attainment of safe, pleasing and economical advance in the technique of swimming bath sanitation.

Secondary considerations, perhaps: but the printers' type is exceptionally clear; the captions really useful, and the index comprehensive.

EVAN MORGAN [*F.*]

Review of Periodicals

Attempt is made in this review to refer to the more important articles in all the journals received by the Library. None of the journals mentioned are in the Loan Library, but the Librarian will be pleased to give information about prices and where each journal can be obtained. Members can have photostat copies of particular articles made at their own cost on application to the Librarian.

UNIVERSITIES AND SCHOOLS

ARCHITECTURE, U.S.S.R. 1935. *No. 1. P. 10.*
Schemes for a great Academy of the Sciences, Moscow, illustrating the present type of pseudo-classical architecture in vogue in Russia.

BUILDER. *Vol. CXLIX. No. 4823. 12 July. P. 66.*
Queen's College, Cambridge, New Buildings (G. Drinkwater).

BOUWKUNDIG WEEKBLAD ARCHITECTURA. *1935. No. 28. 13 July. P. 285.*
The Haarlem domestic economy and industrial school. A large technical school with provision for all types of domestic training.

ARCHITECTURE (PARIS). *Vol. XLVIII. No. 7. 15 July. P. 259.*
Lycée Camille-Sée, Paris. A large state school by Le Cœur for 1,800 pupils; also article on the electrical installation in a state professional girls' school, Vizille.

ARCHITECTURE ET URBANISME. *Vol. LV. No. 3.*
Schools. Special articles on schools, with detailed description and illustrations of an infants' school in Vienna, by Franz Schuster.

MUSEUMS AND EXHIBITIONS

ARQUITECTURA (MADRID). *Vol. XVII. No. 5. July. P. 155.*
Competition designs for a museum of popular art.

WERK (ZURICH). *Vol. XXII. No. 7. July.*
Swiss Exhibitions. Illustrations and descriptions of the Land-und-Ferienhaus (Country and Holiday House) Exhibition, Zurich, and of the Swiss pavilion at Brussels.
(See also Lucerne Congress Hall entry below.)

LIBRARIES

ARCHITECTURE ET URBANISME (Brussels). *Vol. LV. No. 2. P. 17.*
National libraries. Illustrations of the new Albertine library, Brussels, and several other national libraries in Europe and America. A useful reference.

ARCHITECTURE. U.S.S.R. *1935. No. 2. P. 68.*
The Lenin Library, Moscow. The first photographs of this great modern library.

BROADCASTING STUDIOS

BUILDER. *Vol. CXLIX. No. 4823. 12 July. P. 63.*
Broadcasting House, Manchester. (Raymond McGrath [*A.*].)

CONCERT HALLS

BAUMEISTER. *Vol. XXXIII. No. 8. August. P. 263.*
New Art and Congress Hall, Lucerne (Armin Meili). A first-class building of the *feststpielhaus* type providing for concerts, congresses, exhibitions, etc., with a restaurant and garden: one of the best buildings of its kind in Europe.

BUILDING. *Vol. X. No. 7. July. P. 276.*
Bexhill Entertainment Hall. (Mendelsohn and Chermayeff [*F.*].) Article on construction.

INSTITUTIONAL

BATIR (BRUSSELS). *Vol. IV. No. 32. 15 July. P. 258.*
The Institute of Civil Engineering, Liége, by J. Moutschen. A large building with machinery halls and laboratories, lecture theatre and offices.

CIVIC BUILDINGS

BUILDER. *Vol. CXLIX. No. 4823. 12 July. P. 57.*
Chigwell Urban District Council offices. (R. C. Foster [*F.*].)

BAUMEISTER. *Vol. XXXIII. No. 8. August. P. 261.*
Infantry barracks, Lucerne.

SPORTS BUILDINGS

ARCHITECTS' JOURNAL. *Vol. LXXXII. No. 2113. 18 July. P. 93.*
Swimming pools. Information supplement with articles on and details of planning and layout, carcassing, surrounds, etc., etc. A useful reference.

ARCHITECTS' JOURNAL. *Vol. LXXXII. No. 2114. 25 July. P. 135.*

ARCHITECT AND BUILDING NEWS. *Vol. CXLIII. No. 3474. 19 July. P. 89.*
Cricket Pavilion, Shepherd's Bush. (John Grey and G. A. Jellicoe [*F. & A.*].)

CONSTRUCTION MODERNE (PARIS). *Vol. L. No. 43. 28 July. P. 935.*
Sports stadia. Useful reference article illustrating several good modern examples.

CLUB

ARCHITECTURE ILLUSTRATED. *July 1935. P. 17.*
Firbeck Hall Country Club, Worksop. (Hadfield and Cawkwell [*F. & A.*].)

COMMERCIAL BUILDINGS

ARCHITECTURAL FORUM. *Vol. LXIII. No. 1. July. P. 51.*
Shop fronts, illustrations of several examples and notes on design.

ARCHITECTURAL RECORD. *Vol. LXXVIII. No. 1. July.*
Banks and shops in Chicago; also article on shop lighting and article on drug-store design.

TRANSPORT BUILDINGS

ARCHITECTURAL REVIEW. *Vol. LXXVIII. No. 465. August.*
Car service station, Catford, by Cameron Kirby [*A.*].

ENTREPRISE FRANÇAISE. *Vol. L. No. 54. June. P. 11.*
Pont de la Roche, Guyon, France. A graceful concrete bow-string bridge of 161 metres span.

INDUSTRIAL BUILDINGS

ARCHITECTURE, U.S.S.R. *1935. No. 2. P. 35.*
Modern Russian factories.

HOSPITALS, CRÊCHES, ETC.

ARCHITECTURE AND BUILDING NEWS. *Vol. CXLIII. No. 3475. 26 July. P. 106.*
Tolworth Isolation Hospital. (P. J. B. Harland [*A.*].)

ENTREPRISE FRANÇAISE. *Vol. L. No. 54. June.*
Surgical hospital of the Federation of Buildings and Public Works, Paris. A hospital for workers in the building and contracting industries.

ARCHITECT AND BUILDING NEWS. *Vol. CXLIII. No. 3475. 26 July. P. 114.*
Crêche, Suresnes, France. (M. Maurey.)

WELFARE BUILDINGS

ARCHITECT AND BUILDING NEWS. *Vol. CXLIII. No. 3473. 12 July. P. 45.*

BUILDER. *Vol. CXLIX. No. 4824. 19 July. P. 100.*
Foundling Hospital's new buildings, Berkhamsted. (J. M. Sheppard and Partners.)

BUILDER. *Vol. CXLIX. No. 4825. 26 July. P. 146.*
Royal Eastern Counties' Institution, Colchester (J. Stuart [*F.*]). The full scheme provides for 21 villas for 52 patients each. Ten for men, four for women, seven for children. Two being for low-grade patients.

SPAS

CONSTRUCTION MODERNE. *Vol. L. No. 40. 7 July. P. 862.*
New Spa building at Enghien-les-Bains, Seine and Oise, includes the administrative offices, and provision for several kinds of bath treatment.

CHURCHES

ARCHITECT AND BUILDING NEWS. *Vol. CXLIII. No. 3473. 12 July. P. 54.*
St. Wilfrid's, Harrogate. Lady Chapel added to Temple Moore's greatest church by Leslie T. Moore [*F.*].

ARCHITECT AND BUILDING NEWS. *Vol. CXLIII. No. 3476. 2 August. P. 141.*
St. Cuthbert's Mission Church, Herringthorpe, Yorks (W. P. Dyson and B. A. Hebeler [*AA.*]).

BOUWKUNDIG WEEKBLAD ARCHITECTURA. *1935. No. 29. 20 July.*
Competition designs for a synagogue at Amsterdam.

DOMESTIC

ARCHITECTURE D'AUJOURD'HUI. *Vol. V. No. 6. June.*
Habitations à bon marché, abbreviated in France to "H.B.M." Special number dealing with the historical, sociological, legal, economic and town-planning aspects of the provision of cheap dwellings. Well illustrated. A valuable reference. A copy is being added to the Loan Library.

ARKITEKTEN MAANEDSHAEFTE (COPENHAGEN). *Vol. XXXVI. 8-9. P. 121.*
Housing schemes (flats) near Copenhagen. Lille Tuborg, by C. I. Schon; Blidah, by Ivar Bensten; Jorgenshave, by A. Skjot Pedersen; and Bellavista, by Arne Jacobsen.

BUILDING. *Vol. X. No. 7. July. P. 260.*

ARCHITECTURAL REVIEW. *Vol. LXXVIII, No. 465. August.*
Flats in reinforced concrete, Golders Green, by A. V. Pilichowski [*A.*].

ARCHITECT AND BUILDING NEWS. *Vol. CXLIII. No. 3476. 2 August. P. 137.*
Lansdowne House (Wimperis Simpson and Guthrie [*FF.*]).

GARDEN ARCHITECTURE

O.I.A.V. (VIENNA). *Vol. LXXXVII. No. 27-28. 12 July.*
Greenhouses. Article on their design, illustrating early English examples.

ELECTRICAL REVIEW. *Vol. CXVII. No. 3009. 26 July. P. 111.*
Greenhouse heating by electricity.

CONSTRUCTION

DESIGN AND CONSTRUCTION. *Vol. V. No. 9. July. P. 297.*
Planning in reinforced concrete. First part of article by Ove Arup.

CONSTRUCTION MODERNE. *Vol. L. No. 42. 21 July. P. xxi.*
Construction of corrugated iron roofs.

ENTREPRISE FRANÇAISE. *Vol. L. No. 54. June. P. 20.*
Waterproofing roofs. A useful reference to Continental practice, especially for flat roofs.

CONCRETE. *Vol. XXX. No. 7. July.*
Various articles on concrete building, including articles on an unusual hospital structure, Madrid, and an article by Dr. Oscar Faber on the use of reinforced concrete as a structural material.

BULLETIN TECHNIQUE DE LA SUISSE ROMANDE. *Vol. LXI. No. 14. 6 July. P. 160.*
Parquet flooring; methods of construction in modern building.

BATIR (TECHNICAL SUPPLEMENT TO CONSTRUCTION MODERNE). 6TH YEAR, NEW SERIES. *July.*
Fire protection. Article on fireproof construction and notes on fireproof doors, fire-fighting appliances, etc.

BUILDING SCIENCE

ARCHITECT AND BUILDING NEWS. *Vol. CXLIII. No. 3476. 2 August. P. 133.*
Obstruction of light by balconies, illustrated note by H. E. Beckett, of the B.R.S., giving daylight computations for light received from cloudy sky.

HISTORICAL AND GENERAL

BYGGE KUNST (OSLO). *Vol. XVII. No. 5.*
Special number to celebrate Silver Jubilee of the Norske Arkitekters Landsforbund. Illustrating many good Norwegian buildings.

ARCHITEKTURA I BUDOWNICTWO (WARSAW).
This journal, published by the Polish Society of Architects, is now regularly received by the Library.

Correspondence

THE DESIGN OF BELFRIES

11, Elmer Street,
Grantham.
9 July 1935.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—I should like to warn your readers against taking too literally the somewhat extravagant statements about bells, and recommend caution in acting on the suggestions.

I know the city mentioned very well, and it happens that I have stayed in a house in the Close, west of the church, many times and can testify that the tower is so high that the noise was never excessive; and I can even recollect going to sleep whilst the bells were ringing one New Year's Eve, and that in what must be almost the nearest bedroom to the tower.

Whatever may be the advantages to the surrounding villages, the city below has been practically robbed of the sound of the bells.

The lowering has been far too successful. I had a similar experience in a village where the bells had been lowered about 15 feet, with the result that the villagers could not hear the bells except when in church, when the sound was overpowering.

These bells have been rehung just below the belfry windows and are now quite satisfactory.

In my experience, except in the case of low towers built in the centre of narrow streets, it is seldom necessary to do more than keep the level just below the belfry windows and, possibly, block up the lower part of the windows.

It must be remembered that, after all, the primary reason for bells is to call the neighbouring people to worship and not to attract those at a distance.

It is claimed by some that lowering the bells minimises the stress on the tower; I have, after examining many towers, not been able to find a case where actual damage had been done to a tower by bell ringing.

Our mediæval ancestors were excellent builders, and I believe the mediæval tower has yet to be found which is not strong enough, if in decent repair, to stand the ringing of a properly hung peal of bells hung in the normal position.—Yours faithfully, WILFRID BOND [*F.*]

GLASGOW CONFERENCE AND MODERN ARCHITECTURE

Belleville,
The Common,
Tunbridge Wells.
16 July 1935.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—The cold douche of truth and common sense administered by Professor T. Harold Hughes at the recent Conference at Glasgow to modern [*sic*] architecture has apparently roused the ire of Mr. Raymond McGrath.

Some of us have been hoping to hear an authoritative voice calling a halt to the imbecile and grotesque nonsense masquerading under the name of modern art and architecture.

Mr. McGrath tells us that the voice of an Impertinent Student was heard asking that the good in modern architecture should be pointed out and that forcibly.

"Impertinent" is correct, but if there *is* no good how on earth can it be pointed out?

That the youth in all countries has been fired with the craze as Mr. Gropius asserts, is no proof of the ethical necessity of the cult.

It is merely that youth is indulging for a time in a wild and jazzing kind of architectural ragging.

Well, youth will be served, and must be, I suppose, good-humouredly tolerated up to a point.

Beyond that a firm, restraining hand must be laid on it by wisdom, knowledge and experience.

Thanks are due to Professor Hughes and others who are combating this aberration.

A short time back I attended a conference of artists and literary friends on Modern Art and Architecture. It was with entire satisfaction that I found the consensus of opinion generally was that much of the so-called art of to-day was a vulgar travesty of art and an affront to religious sentiment and feeling.

It has been suggested that it is merely a passing phase and will not survive. Let us hope that the end is near: the sooner the better. For there will be the less to forgive and the less to forget.—Yours faithfully, HENRY ELWIG [*F.*]

A STANDARD OF VALUES FOR ARCHITECTURE TO-DAY

Bridge House,
Welwyn, Hertfordshire.
22 July 1935.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—May I reply to Mr. Lorne's paper "A Standard of Values for Architecture To-day," which appeared in your last issue, by saying that there is presumably something common to all works of art (wherein must be included both works of architecture and of music) and which is presumably also the value or quality that makes them works of art at all. Clearly, in the case of music, there is no directly utilitarian purpose, and it should follow, therefore, that in architecture too the primely critical element whereby architecture ranks as an art must also be something that need not be directly useful. In other words, value itself—value in its own right—must be recognised as being of use, just as much as use itself—use in its own right—becomes meaningless unless it is of value. To my mind, Mr. Lorne has not left himself a sufficient loophole by which he could agree with this. He would be bound by his remarks to question the beauty of a structure such as the Great Pyramid, the useful purpose of which is in doubt, and he would be bound to condemn Ernest Gimson's (to me) beautiful stalls in Westminster Cathedral, since these could be replaced for about £2 10s. with a row of bentwood chairs such as Messrs. Lyons use in their tea-shops and which, for the money, are the strongest and most comfortable chairs that I know of.

Turning to another aspect of Mr. Lorne's paper, I should like to have further light regarding the hypothetical "we as architects," which is the central subject of his remarks. I have not, so far, been able to discover a "we as architects," but only the old usual I, I, I, and to me it seems that Mr. Lorne himself falls into an implicit subscription to this standard when, following his assertion that "we" should be ourselves and therefore original, he does not go on to explain how this is to be achieved by assistants (more than half the profession) whose very job it is *not* to be themselves, but to attend upon the architectural opinions of their employers or principals.—Yours faithfully, MALCOLM MACTAGGART [*L.*]

Notes

SIR WALTER TAPPER, R.A., K.C.V.O. [*F.*]

Mr. Walter Tapper, who for the last seven years has been Surveyor to Westminster Abbey, has been made a K.C.V.O.

SIR GEORGE CHRYSTAL, K.C.B.

Sir George Chrystal, since 1919 Secretary to the Ministry of Health, has been appointed Permanent Secretary to the Ministry of Health.

COL. M. K. MATTHEWS, T.D., F.S.I. [*F.*]

Col. M. K. Matthews has been appointed Deputy Lieutenant of the County of London.

THE LOCAL GOVERNMENT ACT 1933: SECTION 266

Model Standing Orders

"Prime Cost Items" in Contracts

The attention of the Practice Standing Committee was recently drawn to the fact that Section 266 of the Local Government Act 1933, which came into force on 1 June 1934, provides that all public works exceeding a stipulated sum in value must be put out to public tender by being advertised. From information received by the Committee it would appear that a number of local authorities are interpreting this provision as also applying to the prime cost sums in a building contract, and the difficulties which would arise as a result of this interpretation have been pointed out to the Committee.

Representations were, therefore, made to the Ministry of Health with the result that the Ministry agreed to receive, on 23 May 1935, a deputation from the Committee in order to discuss the matter.

The deputation, which was received by Mr. A. N. C. Shelley (in the chair), Mr. R. G. Hetherington and Mr. Archibald Scott, consisted of Mr. L. Sylvester Sullivan (Chairman of the Practice Standing Committee), Mr. Percy Thomas, Mr. Kenneth M. B. Cross, Mr. Herbert A. Welch, Mr. Charles Woodward and Mr. Geoffrey C. Wilson (Hon. Secretaries of the Practice Standing Committee), and Mr. C. D. Spragg, Assistant Secretary R.I.B.A.

Mr. Sullivan having introduced the members of the deputation, Mr. Percy Thomas presented the case on behalf of the deputation.

A frank and informal discussion took place and it was generally agreed:

(*a*) That normally the main contract should be advertised. Although this might not always be the ideal method it had been required by statute for many years. In certain cases when the work was of a special character the Ministry had agreed that tenders might be considered from firms selected from among those who had intimated, in response to public advertisement, that they wished to be allowed to tender, but this had been regarded as exceptional.

(*b*) That for certain items in the furnishing and equipment of buildings Standing Orders might be waived where it is known that only a few firms supply the class of goods required.

(*c*) That with regard to sub-contracts, about which there had been some misunderstanding among local authorities, the Ministry would consider whether local authorities could be advised on some suitable opportunity that Section 266 does not apply to sub-contracts entered into by the main contractor and to which in accordance with the standard form of contract the local authority is not a party. In such cases, however, competitive estimates should be obtained wherever possible.

(*d*) That it is undesirable to include large sections of work in a contract as prime cost or provisional sums.

(*e*) In conclusion, the representatives of the Ministry pointed out that the Model Standing Orders were framed with a view to covering all public work and that the safeguards envisaged were particularly desirable in the case of smaller buildings, etc., for which very often architects were not engaged.

THE GARDEN CITIES AND TOWN PLANNING ASSOCIATION

Housing and Town Planning Tour—No. 21

From 27 September to 2 October 1935

The Autumn Tour of the Association will be to Welwyn Garden City, Letchworth, Cambridge, Corby, Stamford and Leicester.

The interest of these places is diverse, each having a particular lesson applicable to the problems of housing to-day. Letchworth and Welwyn represent the Garden City in its most complete form, and a visit will have special value in view of the recent issue of the report of the Departmental Committee on Garden Cities.

At Cambridge, in addition to the Corporation schemes, the work of two very successful housing societies will be inspected, and opportunity given to visit some of the colleges and the new university library. A tour will also be made of the land which has been acquired by the Cambridge Preservation Trust, in order to protect the amenities and the viewpoints surrounding the town.

Two new items of study have been included in this tour. The Ketton Portland Cement Works represent a modern organisation in the working of quarries and its bearing upon the production of material for housing.

At Corby will be seen the steel works of Messrs. Stewarts and Lloyds, Ltd., in connection with which there is in course of development a self-contained garden village, planned by Messrs. Allen and Potter. The old historic town of Stamford will be explored under the guidance of Mr. H. F. Traylen, F.R.I.B.A.

At Leicester will be seen several large estates developed to meet the needs of a Midland industrial city.

The whole journey will be undertaken by road in a special saloon motor-coach, and there will be no inconvenience caused by the transfer of baggage, etc. The tour will be strictly limited to 32, and early application is, therefore, necessary.

The tour has been arranged with the municipalities concerned, and representatives of those cities will accompany the party on each series of visits.

It is necessary that bookings should be made as early as possible, as the number of the party will be limited. The cost is £7 7s. The prices include transport, all meals *en route*, and first-class hotel accommodation. A deposit of £1 must accompany each application for a ticket, which deposit will be credited to the account of the applicant if the tour is taken.

For details of programme and any other information application should be made to the Secretary, Mr. Alfred T. Pike, Garden Cities and Town Planning Association, 13 Suffolk Street, S.W.1.

THE NORTHERN POLYTECHNIC

Town Planning Course

The Department of Architecture, Surveying and Building at the Northern Polytechnic has organised courses for the study of Town Planning, which will start on 23 September 1935.

The classes will be held from 7 p.m. to 9 p.m. on three evenings in each week, and the subjects will be arranged to meet the requirements of those who desire to take the examinations of the Town Planning Institute. All sections of the examination will be dealt with in order to meet the requirements of architectural, surveying and engineering candidates.

The fee for the course from September to the end of June will be £2.

Those who are interested are invited to write to the Head of the Department for further information. Students will be enrolled between 6.30 p.m. and 9 p.m. on 19 and 20 September.

R.I.B.A. MAINTENANCE SCHOLARSHIPS IN ARCHITECTURE

The Royal Institute of British Architects announce that the following Maintenance Scholarships have been awarded for the year 1935–36:—

An R.I.B.A. Maintenance Scholarship of £50 per annum to Mr. A. M. Foyle of London.

An R.I.B.A. Maintenance Scholarship of £50 per annum to Mr. G. M. Thomas of Huddersfield.

An R.I.B.A. (Houston) Maintenance Scholarship of £100 per annum to Mr. D. McL. Craik of London.

The Ralph Knott Memorial Maintenance Scholarship of £45 per annum at the Architectural Association School of Architecture to Mr. T. Verity of London.

The following Scholarships have been renewed for a further period of one year:—

The R.I.B.A. Maintenance Scholarship of £100 per annum awarded to Mr. R. W. Higgs (Birmingham School of Architecture) in 1934.

The R.I.B.A. Fourth and Fifth Year Maintenance Scholarship of £100 per annum awarded to Mr. N. E. Block (Bartlett School of Architecture, University of London) in 1934.

THE SAFETY OF ST. PAUL'S CATHEDRAL

On 5 July the House of Commons passed the Report stage of the City of London (St. Paul's Cathedral Preservation) Bill which has been designed to assure that at no time shall the safety of the Cathedral be endangered by unwise excavations in its neighbourhood. For a time the Bill was subjected to opposition from the London County Council and the London Passenger Transport Board, but their opposition was withdrawn and the Bill passed without further difficulties.

AN EXHIBITION OF COTSWOLD ART AND CRAFTSMANSHIP

1 to 31 August 1935

The Exhibition will be held at Elm Tree House (late Alcuin Press), Campden, Glos, and is open on weekdays from 11.30 a.m.–7 p.m., and on Sundays from 2.30–6.30 p.m. Admission: 6d. (Children 3d.) Season tickets 2s. 6d.

The Exhibition will contain only the very best work and will include examples of furniture and joinery, textiles, pottery, wrought iron, silversmithing, printing and bookbinding, needlework and embroidery, jewellery, oil paintings, water-colours, drawings, miniatures, etchings, woodcuts, plaster friezes, sculpture, stained glass, heraldry, calligraphy. All enquiries should be addressed to the Secretary, Mr. Basil Jones, Elm Tree House, Campden.

BUILDING CENTRE EXTENSION

Owing to the increasing demand for exhibition space and to make provision for further activities, the Building Centre has acquired the lease of the Grafton Galleries, which will be connected up with the present premises in Bond Street. This will nearly double the area of the Building Centre.

One section of the Grafton Galleries building will be occupied by the British Electrical Development Association and will provide the largest and most comprehensive electrical showroom in London. Another section will be devoted to sanitary appliances.

Provision is also being made for a room for temporary exhibitions and lectures.

It is intended to open formally the new extension as soon as the necessary alterations and re-arrangements are completed.

FOUNDATION-STONE-LAYING CEREMONIES

The R.I.B.A. has received a large number of enquiries recently from architects who have been asked to arrange the procedure of foundation-stone-laying ceremonies. The Library has very little information on the subject and the Librarian would be very much obliged if any architects who have programmes of foundation-stone-laying ceremonies in which they have taken part in the past could send them to him to be kept for reference in the Library.

Programmes will be returned to those members who do not wish to part with them after notes have been made of their contents.

THIRTEENTH INTERNATIONAL CONGRESS AT ROME

22–28 September

Members travelling to Rome for the Thirteenth International Congress of Architects are reminded that the Wayfarers' Travel Agency, Ltd., 33 Gordon Square, W.C.1 (Museum 2312 and 4827) have been appointed official travel agents for the British Delegation, and all enquiries should be sent direct to them and not to the R.I.B.A. or the Secretary of the Congress.

The party is leaving London on 20 September at 2 p.m. via Dover-Calais and Rome Express and arriving in Rome at 7.05 p.m. on 21 September.

Alternative prices are given for 1st and 2nd class travel, including sleepers on the outward journey, and for first and second-class hotels in Rome, and the Wayfarers will be glad to have from delegates answers to the following questions:—

(*a*) Class of travel?
(*b*) Class of hotel?
(*c*) Is a single room required?
(*d*) Is room with bath required?

The following are the prices, all of which entail travelling with the party on the outward journey but allow of independent return:

Including 1st class travel throughout by Rome Express, sleeper from Paris (excluding gratuity to the sleeping-car conductor), "rapido" supplement on the outward journey only, and reservations, eight days' accommodation at first-class hotels with bed, breakfast and gratuities	£26	2	6
Supplement for single room		12	0
As above, but with second-class hotel	£25	2	6
2nd class travel by Rome Express, sleeper from Paris, "rapido" supplement on the outward journey and reservations, and first-class hotel accommodation	£21	6	6
Supplement for single room		12	0
2nd class travel as above with second-class hotel accommodation	£20	6	6
Supplement for 1st class on the boat, return		7	0

N.B.—Separate quotations will be gladly given by The Wayfarers to those wishing to travel independently or by alternative routes.

Enquiries and bookings regarding travel should be sent to The Wayfarers Travel Agency, together with a deposit of £1 per head, payable on or before 15 August. After this date prices will be increased by 10s. and accommodation at the Conference hotels cannot be guaranteed. As there may be some six hundred delegates from all countries, it will be seen that accommodation may be rapidly booked up, and early application is therefore strongly recommended.

ALSOP MEMORIAL FUND

About two years ago, shortly after the death of Rodney Alsop, the architect chiefly responsible for the design of the Hackett Memorial Buildings at the University of Western Australia, it was proposed to erect a memorial seat in his honour, and a small sum was collected.

A plan of the proposed seat has recently been prepared by Messrs. Hobbs, Forbes and Partners, and approved by the Committee. A tender from Messrs. A. T. Brine and Sons has been accepted. The cost of the seat will be about £100, and it is anticipated that the sum will be contributed by those who were friends of Rodney Alsop or who admire his work and wish to honour his memory. In order to avoid delay in beginning the work, two of his friends have undertaken to make up any deficiency. Any surplus would be used for decoration within the Winthrop Hall.

The seat will be twenty feet long, constructed of Donnybrook stone, and placed on the eastern side of the pond in the Court of Honour. On the front will be cut the inscription "Rodney Alsop, Architect," and the years of his birth and death. The side arms will carry the emblem of the T-square. The back will carry as an inscription a line from Bridge's *Testament of Beauty*: "Verily by Beauty it is that we come at Wisdom." The work will be carried out by two masons who worked under Alsop for four years on the Hackett Buildings.

The Committee will be very glad to receive subscriptions towards this memorial. They should be addressed to the Clerk of the Senate, University of Western Australia, Crawley.

CRICKET MATCH

R.I.B.A. *v.* A.A.

This annual match was played on the A.A. ground at Elstree on 17 July. The A.A. captain won the toss and most kindly put us (the R.I.B.A.) in. Our captain thereupon found himself faced with his first difficulty. All his team, on enquiry, stated that they could bat, and most of them hinted that first or second wicket was their usual place; so the names had to be drawn out of a hat. The result was quite successful, though some who doubtless could bat didn't. The most exciting time came when a dark horse produced from the captain's office proceeded to hit fours all over the place. Kwan bowled with guile, and Burroughes and Trench with skill and perseverance, and the A.A. fielding left nothing to be desired from their opponents' point of view.

The A.A. had said that they must get back early to work. We replied that that would be quite all right, and it was. All our team said they could bowl as well as bat, but only two had the opportunity of proving their statement. Our attack was a judicious mixture of youth and experience. Linfield, who joined the Institute four years ago, bowled fast from one end, and Robson, who joined thirty-eight years ago, bowled leg-breaks from the other end, and the match was over at 4.15. Linfield made one of those catches which every cricketer dreams of, but few accomplish.

The A.A. Students' Club most kindly entertained us to lunch and tea, and we all enjoyed the day. We came away feeling that we had been very lucky to strike the A.A. team on an off day. Perhaps they were all thinking about their exams, poor fellows.

R.I.B.A.

A. S. Knott, st. Keel, b. Burroughes	24
S. E. T. Cusdin, c. and b. Trench	9
G. R. Linfield, c. and b. Kwan	1
L. J. Young, b. Kwan	1
D. Taylor, b. Kwan	32
E. J. T. Lutyens, b. Trench	10
W. R. F. Fisher, b. Kwan	8
A. V. Brandle, c. Orpen, b. Burroughes	12
H. Pakington, not out	15
P. A. Robson, b. Kwan	5
W. J. Golding, c. Keel, b. Kwan	27
Extras	16
Total	160

A.A.

W. H. Kwan, c. Golding, b. Linfield	1
F. C. Keel, b. Robson	11
R. Rutherford, b. Linfield	0
F. L. Sturrock, b. Robson	6
D. Duncan, c. Taylor, b. Robson	1
R. V. Crowe, b. Linfield	5
B. J. Burroughes, b. Robson	11
J. L. Cronje, c. and b. Linfield	7
F. H. Adie, b. Robson	10
J. Orpen, b. Robson	0
P. C. French, not out	11
Extras	11
Total	74

Robson took 6 wickets for 28 runs. Linfield took 4 wickets for 35 runs.
R.I.B.A. won by 86 runs.

SOCIETY FOR THE PROTECTION OF ANCIENT BUILDINGS

Windmill Section

A Windmill Section of the S.P.A.B. has been formed, its aim being the preservation of windmills. The Section has a separate membership and subscription, but works in close co-operation with the S.P.A.B., its chairman being the Secretary of the Society. The Section hopes to preserve mills by giving financial help to those in work, by technical advice relating to repair, even when the mills are no longer working, and by stimulating public interest. It also hopes to complete and publish a survey of English windmills. To achieve this, the Section needs support, and all persons interested in the subject are asked to become members. The minimum subscription is 5s. a year, but donations are welcome.

FIRST SUMMER SCHOOL OF THE LIVERPOOL SCHOOL OF ARCHITECTURE, UNIVERSITY OF LIVERPOOL

23–27 July 1935

When a school has established itself, and spread its graduates all over the world, it can, after a time, expect interesting results from a periodic reunion of its old students: for in spite of all differences of age there is likely to be just enough similarity of aim and difference of outlook among them to make a conference useful without being dull. The experiment of holding a Summer School in Liverpool, with a definite programme of lectures, discussions, visits, and social events, proved to be a stimulating and successful one, successful enough to warrant its continuance and extension in future years. It drew to the School of Architecture some 45 interested people, old students, members of the staff, architects in practice, visitors from other schools, and even a few laymen. They came from various parts of England and Scotland, prepared both to listen and discuss. The moderate size of the membership made a fairly intimate gathering possible, and discussion was correspondingly frank and lively. Professor Budden welcomed the members and presided over the meetings.

Of the six lectures which formed the basis of the proceedings, two were upon technical subjects: *Insulation*, by Mr. C. W. Glover [*L.*], and *Colour*, by Mr. E. R. F. Cole [*F.*]; two were on subjects connected with large-scale housing, *Standardisation*, by Mr. E. Maxwell Fry [*A.*], and *Housing in Liverpool*, by its Director, Mr. L. H. Keay [*F.*]; one on *Regional Planning*, by Professor Patrick Abercrombie [*F.*], and a concluding lecture by Mr. W. G. Holford [*A.*], on *Group Practice*. An all-embracing title for the series might have been "Fresh Scope for the Architect": members of the School certainly came away with the feeling that there was a great deal for them to do.

Mr. Glover brought with him as illustrations over a hundred examples of insulating materials, about fifty lantern slides, and some models. To say that his address was full and thorough would be to give it but niggardly praise. Most interesting of all was his table of comparisons of the materials and methods of insulation under three parallel headings, thermal, weather, and sound; the efficiency of each for one, two, or all of these purposes, and their proportionate costs. To cover so much ground, to discuss details and yet impress upon an audience the main principles of a difficult subject such as this, is a Herculean task, but Mr. Glover accomplished it. And the advice he gave in response to a rapid fire of questions was as generous as it was practical.

The lecture by Professor Abercrombie the following morning on "Regional Planning in Execution" was in the nature of a farewell address; and it made all the members present who had come to regard Abercrombie as one of the "amenities" of Liverpool, realise very keenly the extent of their loss on his departure for London. His last lecture given as a member of the staff was a delightful one, and very outspoken. He discussed the difficulties which obstruct the execution of a regional plan, the way in which the local authorities shut themselves up into single compartments, and allow their subsequent actions to be governed almost entirely by considerations of increasing their rateable values. He remarked how easy it was to wriggle out of the obligations of town and country planning, a situation which the very wording of the Acts tends to maintain. He frankly discussed the possible methods of land finance, nationalisation, and compensation and betterment. "The real opportunity we have at present," he said, "is afforded by the slum-clearance campaign. It is going to cause the biggest shifting of population that has taken place during the last century. We have an opportunity for radical reforms and radical replanning. And some day all these schemes must be linked up in a national plan."

The lecture on "Colour in Architecture," by Mr. Cole, was a remarkably clear exposition of a subject usually wrapped up in vague generalisations. This clarity is reflected in his practice of the theory he preaches. Mr. Cole showed two main aspects of architectural colour, its influence on form, and the impression or emotion it creates in the mind. He pleaded for a more exact and complete standardisation of colour terms and products than exists at present. The lecture was well illustrated by colour charts, drawings, photographs and coloured materials.

Mr. Maxwell Fry tackled the problem of Industrialised Housing and Standardisation. He made a special point of the analogy between the kind of market research which is undertaken by a motor-car manufacturer, before he concentrates his resources on the designing of a few standard-type models for the coming season, and the similar research necessary in housing, before we can perfect the necessary parts for a few standard types of house, and give them to the manufacturers to put into long-term production. This is impossible without a programme, and a programme free, for a period at least, from political interference. The next step to be taken is in the direction of solving the social, technical, and formal problems of re-development. It is useless to think of mass-production until we have something worth producing.

Mr. Fry was followed by Mr. Keay, the Director of Housing, who gave an account of his own work in Liverpool, illustrated it by means of slides, explained its difficulties and problems, and ended up by showing examples of the work itself in crowded city areas and on the outskirts of the town. Mr. Keay was peppered with questions even more intensively than his predecessors, and cheerfully answered them all with great skill and wit.

The series was concluded on the last morning of the Summer School by a lecture on "Group Practice" from Mr. Holford. He pointed out how often architectural movements are reflected in the schools before they are adopted by the profession as a whole, and he sketched the varieties of group work or procedure towards which architectural effort is tending all over the world. He recounted the past history of group work, its variations, its contemporary possibilities, mode of formation, and prospects, and ended with an account of the many different social services in which the architect will play a part as member of a group. After this lecture Mr. Gharbo showed a film he had made of architectural and constructional work in Egypt.

Among the visits which formed a part of the programme were those to the Mersey Tunnel (led by Mr. Herbert Rowse); the tower of Liverpool Cathedral in course of construction, where the School was welcomed by the Dean, Canon Dwelly; the new Liverpool Orphanage, designed by Messrs. Barnish, Silcock and Thearle; and the housing work on the Liverpool Corporation Estates.

Members of the Summer School took leave of one another on Saturday, 27 July, after a closing speech from Professor Budden.

Obituary

HERBERT GEORGE IBBERSON [*F.*]

Mr. H. G. Ibberson was born in 1866, and died on 16 June 1935. He received his architectural education in the Royal Academy Schools, travelled extensively on the Continent, and was articled to Messrs. Webb and Tubbs, of Reading. He also studied in the offices of John Belcher and J. D. Sedding.

In 1892 he started to practise independently, first at 5 Adelaide Place, E.C., then at 28 Martin's Lane, and from 1912 onwards at 9 Old Square, Lincoln's Inn. He was elected an Associate of the Institute in 1889 and a Fellow in 1900.

His principal architectural works included the swimming-bath, classrooms, boarding-houses, prep. school, music rooms, gymnasium, etc., at Bishop's Stortford College, and Homerton College, Cambridge, Chorley Wood chapel and additions, Elmers End Congregational Church, Christian Science Church, Norwich, decorations at St. Edmund's Church, Hunstanton, and other churches at Leamington, Cambridge, Ampthill and Highgate, Rhaenstor Close, Derbyshire, bank premises at Hunstanton and Downham, and houses at Cambridge, Hunstanton, Ampthill, Dereham and Leicester.

Mr. Ibberson's practice is being carried on by Mr. H. G. M. Laing [*L.*], at 9 Old Square, Lincoln's Inn, W.C.2.

ARTHUR HAROLD CHURCH [*Retd. F.*]

Mr. Arthur Church, who died on 25 June 1935 at the age of 69, was born in 1866 and received his professional training in the office of his father, the late Mr. W. D. Church, with whom he was in partnership from 1906–1916, practising at 12 South Place, Finsbury, E.C. From 1916 he practised at 16 and 17 Devonshire Square, Bishopsgate, till within a year of his death, when he became a Retired Fellow of the Institute.

His principal architectural works include churches at Dulwich, Hornsey, Walthamstow, Finchley, and Kingston, Jamaica, houses at Woodford, Bickley, and Worthing, business premises in Thames Street, East India Dock Road, and Plumstead, many warehouses, Sunday schools at Dulwich, church halls at Ilford and Wanstead, and, in conjunction with his father, additions to the Congregational Memorial Hall, Farringdon Street, E.C.

Mr. Church was a J.P. for many years and also Vice-Chairman of the Woodford Urban District Council, and for twelve years Churchwarden at Woodford Parish Church. He was a Freemason, being a member of the Clapton Lodge and for several years Preceptor of its Lodge of Instruction.

A member writes of him: ". . . always willing to give a helping hand, he was beloved by all who knew him."

EXAMINATION RESULTS

The Final Examination

July 1935

The Final Examination qualifying for candidature as Associate R.I.B.A. was held in London and Edinburgh from 3 to 11 July 1935.

Of the 173 candidates examined 66 passed (16 in Part 1 only) and 107 were relegated.

The successful candidates are as follows:—

Armitage, Harry.
Ashley-Smith, Ewart Trist.
Baddiley, Francis Oliver.
Ball, James Cedric.
Banfield, Geoffrey William.
Bath, Charles George.
Beech, George Henry.
Brown, Cyril Clement (*Part 1 only*).
Brown, Harry Kenneth.
Brown, Lawrence Arthur (*Part 1 only*).
Cardew, George Edwin.
Cartlidge, Thomas (*Distinction in Thesis*).
Clark, Herbert Henry.
Couch, Alfred Clive.
Davis, Robert Cecil.
Dickenson, Norman.
Edleston, Richard Chambers.
Eggleston, Robert Alec.
Elgey, Charles.
Everson, Sydney Frank.
Flatman, James Edward.
Foreman, Maurice.
Fowler, Norman Harold (*Part 1 only*).
Fry, Albert Falconer.
Gaunt, Albert William.
Grace, John Greenfield.
Gravell, Arthur Clare (*Part 1 only*).
Greenwood, John Wilmot.
Harrison, John Mansfield.
Harvey, Hammond Joseph.
Hayns, Herbert Henry (*Part 1 only*).
Hope, John Leonard.
Howe, Jack.
Jobson, William John.
Keeling, John William (*Part 1 only*).
Knight, Thomas William.
Knowles, James Metcalfe.
Luke, Alan Lawson.
Macaree, Henry Charles.
McFadyen, James Samuel.
Manuel, Arthur Charles.
Morris, Alfred Sydney.
Morris, Thomas Shepherd.
Morrison, Leonard David.
Murrell, Henry Thomas.
Oliver, George Herbert (*Part 1 only*).
Orchard, Louis Neil.
Penrose, George Richard (*Part 1 only*).
Pierre-Hunt, William Joseph.
Pinfold, Cyril George (*Part 1 only*).
Pritchard, Frederick Thomas (*Part 1 only*).
Proskauer, Albrecht (*Part 1 only*. Not a British subject).
Russell, Arthur Frederick (*Part 1 only*).
Rutter, Frank Mowbray (*Part 1 only*).
Scott, Lewis George (*Part 1 only*)
Smyth, Basil Staunton.
Smyth, Valentine.
Stacy, Eric Francis.
Stewart, Ronald Alexander (*Part 1 only*).
Tuffley, Henry Guy.
Turner, John Westley.
Walters, Harry.
Wilkinson, Austin.
Williams, Arthur Charles.
Wilson, Leslie Hugh.
Yarrow, Alfred Richard (*Part 1 only*).

The Special Final Examination

The Special Final Examination qualifying for candidature as Associate R.I.B.A. was held in London from 3 to 9 July 1935, and in Edinburgh from 3 to 11 July 1935.

Of the 38 candidates examined 9 passed (1 in Part 1 only) and 29 were relegated.

The successful candidates are as follows:—

Attenbrow, William Baylis.
Clay, Ralph Henry.
McGill Alexander Dewar (*Part 1 only*).
Procter, Rex.
Reid, Herbert James.
Sinning, William George.
Townsend, Henry Terence.
Tsun Fung.
Williams, Stanley Leopold.

Special Examination in Design for former Members of the Society of Architects

The Special Examination in Design for former Members of the Society of Architects qualifying for candidature as Associate R.I.B.A. was held in London from 3 to 8 July 1935.

One candidate was examined and was relegated.

THE EXAMINATION IN PROFESSIONAL PRACTICE FOR STUDENTS OF SCHOOLS OF ARCHITECTURE RECOGNISED FOR EXEMPTION FROM THE R.I.B.A. FINAL EXAMINATION

The Examination was held in London and Edinburgh on 9 and 11 July 1935. Of the 21 candidates examined 17 passed and 4 were relegated.

The successful candidates are as follows:—

Arthur, George.
Connell, Frank James.
Dey, William Gordon.
Drysdale, Mary.
Edwards, Claud Douglas.
Gordon, Alexander Esmé.
Govan, Horace Arthur Rendel.
Hood, Andrew Stewart.
Kerr, Adam Bryce.
Lawrence, George Haslehurst.
Mills, William.
Parker, Eric William.
Prasad, Vishwa Nath.
Ronaldson, Patrick Henry Dudgeon.
Sturrock, Allister.
Woodcock, Robert (Junior).
Wright, Francis Strathill.

Notes from the Minutes of the Council

COUNCIL MEETING, 24 JUNE

THE RETIRING PRESIDENT AND MEMBERS OF COUNCIL

The Hon. Secretary referred to the extremely valuable work which Sir Giles Gilbert Scott had done for the Institute and the profession during his term of office as President and it was resolved by acclamation that a very cordial vote of thanks be passed in favour of the President.

The President, after thanking the Hon. Secretary and Council for their kind resolution, referred to the services of those members of Council who were retiring at the close of the Session and on his proposition a cordial vote of thanks was passed in favour of the retiring Members of Council.

SIR PERCY S. WORTHINGTON [*F.*]

On the proposition of the President the cordial congratulations of the Council were conveyed to Sir Percy Worthington on the well-deserved honour of Knighthood which has recently been conferred upon him.

BRITISH ARCHITECTS' CONFERENCE

On the proposition of the President it was resolved that a very hearty vote of thanks be passed in favour of the Presidents and Councils of the Royal Incorporation of Architects in Scotland and the Glasgow Institute of Architects and all those who offered hospitality and contributed to the success of the recent Conference at Glasgow.

MR. PHILIP J. TURNER [*F.*]

The President welcomed Mr. Philip J. Turner, representative of the Royal Architectural Institute of Canada, and expressed the Council's pleasure at Mr. Turner's presence.

THE HONORARY ASSOCIATESHIP

The following candidates were nominated for election as Hon. Associates—

Viscount Charlemont, Minister of Education for Northern Ireland.
Mr. A. N. C. Shelley (Ministry of Health).
Mr. Eric Gill.

THE CONSTITUTION OF THE COUNCIL, STANDING COMMITTEES, EXECUTIVE COMMITTEE AND THE ALLIED SOCIETIES' CONFERENCE

It was decided to appoint a committee consisting of ten members of the Council, half of them being members of the Allied Societies' Conference, to consider and report upon the constitution of the Council, Standing Committees, Executive Committee and the Allied Societies' Conference.

The following members were appointed to serve on this Committee:

Mr. W. H. Ansell	Lt.-Col. R. F. Gutteridge
Col. J. Maurice Arthur	Mr. E. Stanley Hall
Mr. H. Stratton Davis	The Hon. Humphrey Pakington
Mr. Henry M. Fletcher	Mr. Eric W. B. Scott
Lt.-Col. Ernest Gee	Mr. Charles Woodward

JUNIOR MEMBERS' COMMITTEE

It was decided to appoint a Junior Members' Committee with the following terms of reference:—

(a) To arrange future Informal General Meetings on the lines of those held during the current Session.

(b) To organise among the junior members of the Institute from time to time as may be necessary, working parties and research groups to assist in the work of other Committees of the Institute and to undertake work on their own initiative after having obtained authority from the Council.

(c) To keep the Council informed of the views, activities and interest of the younger members of the profession.

It was also decided to appoint the following to serve on the Committee and to give the Committee power to co-opt not more than three additional members:—

Mr. L. W. Thornton White (chairman)	Mr. W. G. Holford
Mr. N. E. Block	Mr. R. F. Jordan
Mr. Jack Howe	Mr. J. E. Kean
Mr. G. E. Lewis	Mr. W. H. McNicol
Mr. N. D. Eyres	Mr. T. Mitchell
Miss J. M. Albery	Mrs. Janet Pott
Mr. H. Braddock	Mr. J. N. Summerson
Mr. W. Goodesmith	Miss Blanco White

R.I.B.A. ARCHITECTURE MEDALS

Mr. H. S. Goodhart-Rendel was appointed to serve as the representative of the Council on the Jury set up to make the award for the three years ending 31 December 1934 in the area of the Essex, Cambridge and Hertfordshire Society of Architects.

The award of the Medal for the area of the Birmingham and Five Counties Architectural Association in favour of the Town Hall, Dudley, designed by Messrs. Harvey and Wicks (*F.* and *A.*), was formally approved.

EXAMINERS FOR THE R.I.B.A. STATUTORY EXAMINATION FOR DISTRICT SURVEYORS AND THE R.I.B.A. EXAMINATION FOR BUILDING SURVEYORS

The Board of Architectural Education reported that Mr. Charles Woodward and Mr. P. M. Fraser had been appointed to serve on the Statutory Board of Examiners in place of Mr. W. R. Davidge and Mr. Baxter Greig, who were unable to accept appointment.

R.I.B.A. THESIS EXAMINERS

The Board reported that Professor Patrick Abercrombie had been appointed to serve as a Thesis Examiner in place of Mr. W. Harding Thompson, who was unable to accept appointment.

R.I.B.A. INTERMEDIATE EXAMINATION: EXAMINER IN DESIGN

The Board reported that Mr. L. H. Bucknell had been appointed to act as an Examiner in Design for the Intermediate Examination in place of Mr. E. B. O'Rorke, who was unable to accept appointment.

R.I.B.A REPRESENTATIVE ON THE TOWN PLANNING JOINT EXAMINATION BOARD

The Board reported that Mr. W. A. Eden had been appointed to serve on the Joint Examination Board in place of Mr. Edward Maufe, who was unable to continue to serve as one of the R.I.B.A. representatives. The other representative is Sir Raymond Unwin.

REPORTS OF PRIZE WINNERS

The Board reported that they had approved the reports of the following Prize Winners:

Mr. W. B. Edwards (Athens Bursar, 1934).
Mr. E. E. Davis (Henry Saxon Snell Prizeman, 1933).
Mr. Basil Spence (Pugin Student, 1933).
Mr. W. A. Eden (Hunt Bursar, 1934).
Miss Sadie Speight (Neale Bursar, 1933).

PROGRAMMES OF STUDY PROPOSED BY R.I.B.A. PRIZE WINNERS

The Board reported that they had approved the programmes of study proposed by the following:—

Allan Johnson:	Alfred Bossom Travelling Student, 1935.
Wesley Dougill:	Godwin and Wimperis Bursar, 1935.
F. A. C. Maunder:	Victory Scholar, 1935.
H. M. Wright:	Tite Prizeman, 1935.
F. R. Stevenson:	Pugin Student, 1935.
W. J. Holt:	Archibald Dawnay Scholar, Second Year, 1934–1935.

COUNCIL OF THE BRITISH SCHOOL AT ROME

Mr. T. [illegible] Darcy Braddell [*F.*] (Chairman of the Board of Architectural Education) was appointed as one of the two R.I.B.A. representatives on the Council of the British School at Rome in place of Mr. L. Sylvester Sullivan, whose term of service had expired.

The thanks of the Council were conveyed to Mr. Sullivan for his services.

THE ARCHITECTS' REGISTRATION COUNCIL

Mr. John Dower [*A.*] was appointed as one of the R.I.B.A. representatives on the Architects' Registration Council in place of Mr. Percy Thomas, President-Elect.

THE BUILDING INDUSTRIES NATIONAL COUNCIL

Mr. Kenneth M. B. Cross [*F.*] and Mr. Charles Woodward [*A.*] were appointed as additional representatives on the Building Industries National Council.

THE GENERAL COUNCIL FOR THE NATIONAL REGISTRATION OF PLUMBERS

Mr. Clement Stretton [*F.*] (President of the Leicester and Leicestershire Society of Architects) was appointed as the R.I.B.A. delegate at the Annual Meeting of the General Council for the National Registration of Plumbers to be held at Leicester on 24 July 1935.

PROPOSED REMOVAL OF EPSTEIN SCULPTURES FROM BUILDING IN THE STRAND

On the recommendation of the Art Standing Committee it was decided to approach the Government of Southern Rhodesia urging reconsideration of the proposal to remove the Epstein sculptures from the building in the Strand designed by Mr. Charles Holden and recently acquired by the Government of Southern Rhodesia.

REVISION OF THE SCALE OF CHARGES

On the recommendation of the Practice Standing Committee it was decided to amend Clause 1 (h) of the Scale of Charges. A note of the proposed amendment was published in the JOURNAL for 29 June in accordance with the terms of Bye-law 38.

REVISION OF THE CODE OF PROFESSIONAL PRACTICE

On the recommendation of the Practice Standing Committee it was decided to revise Clauses 2, 5 and 7 of the Code of Professional Practice. A note of the Council's decisions was published in the JOURNAL for 13 July.

MEMBERSHIP

The following members were elected:—

As Fellows	9
As Associates	11
As Licentiates	9

Election 22 July 1935.—Applications for membership were approved as follows:—

As Fellows	11 applications
As Associates	16 ,,
As Licentiates	11 ,,

Reinstatements.—The following ex-members were reinstated:—

As Fellow: Basil Wallace Fitch-Jones (Retired Fellow).

As Associates: Alfred Vincent Booker. William Caie Walker.

As Licentiates: Arthur Cecil Geen. Joseph Pearn Lewis.

Resignations.—The following resignations were accepted with regret:—

Leonard Henry Collier [*L.*].

Frederick Adolphus Konig (Subscriber).

Transfer to the Retired Members Class.—The following member was transferred to the Retired Members Class:—

William Woodeson [*L.*].

COUNCIL MEETING, 8 JULY

MEMBERSHIP OF THE COUNCIL

The President addressed a few words of welcome to the new members of the Council.

PROFESSOR S. D. ADSHEAD [*F.*]

Professor Patrick Abercrombie referred to the retirement of Professor S. D. Adshead from the Chair of Town Planning at the University of London and to his valuable services to Town Planning both as Professor at Liverpool University and subsequently at London University and also as a practising architect.

It was resolved by acclamation that the Council place on record their thanks to Professor Adshead, their appreciation of the splendid services he has rendered to Town Planning and their earnest hope that he may long be spared to continue his valuable work.

THE ROYAL INCORPORATION OF ARCHITECTS IN SCOTLAND

Formal approval was given to a draft new Bye-law submitted by the Royal Incorporation of Architects in Scotland providing for the setting up of a class of Retired Fellows.

APPROVAL OF NEW R.I.B.A. BYE-LAW

The approval of the Privy Council to the new Bye-law 43A was formally reported.

COUNCIL MEETING, 22 JULY

PROPOSED BILL TO AMEND THE ARCHITECTS AND SURVEYORS ORDINANCE, 1933, KENYA

It was decided to inform the Colonial Office that the Council had no criticisms to offer on the proposed Bill to amend the Architects and Surveyors Ordinance 1933, Kenya.

THIRTEENTH INTERNATIONAL CONGRESS OF ARCHITECTS, ROME, 1935

Mr. H. V. Lanchester [*F.*] and Lieut.-Col. H. P. Cart de Lafontaine [*F.*] were appointed as the official R.I.B.A. delegates to the Thirteenth International Congress of Architects to be held at Rome in September 1935.

THE HON. SECRETARY R.I.B.A. FOR CANADA

Mr. V. D. Horsburgh's resignation as Hon. Secretary R.I.B.A. for Canada was accepted with regret, and the cordial thanks of the Council have been conveyed to Mr. Horsburgh for his services.

BRANCHES OF WEST YORKSHIRE SOCIETY OF ARCHITECTS

The formation of branches of the West Yorkshire Society of Architects at Halifax and Wakefield was formally reported to the Council.

THE ARCHITECTURAL GRAPHIC RECORDS COMMITTEE

On the recommendation of the Literature Standing Committee it was agreed to make a grant of £20 towards the funds of the Architectural Graphic Records Committee.

THE RED HOUSE, BEXLEYHEATH

It was agreed to make a donation of £10 10s. towards the fund for the preservation of the Red House, Bexleyheath.

REVISION OF THE SCALE OF CHARGES

The terms of Bye-law 38 having been complied with the revision of Clause 1 (h) of the Scale of Charges, which was approved at the Council Meeting on 24 June, was formally confirmed.

MEMBERSHIP

The following members were elected:—

As Fellows	11
As Associates	16
As Licentiates	12

Election 21 October 1935.—Applications for membership were approved as follows:—

As Hon. Associates	3 applications.
As Fellows	7 ,,
As Associates	18 ,,
As Licentiates	7 ,,

Reinstatements.—The following ex-members were reinstated:—

As Associates: John William Green. Thomas Henry Mace. Alan Leslie Snow.

As Licentiate: John George Douglas Hoets.

Resignations.—The following resignations were accepted with regret:—

Leopold Bernard Frank [*F.*]. Charles Edmund Lancaster Parkinson [*A.*]. Douglas Hall [*L.*]. William Josiah Langley [*L.*].

Transfer to the Retired Members Class.—The following members were transferred to the Retired Members Class:—

As Retired Fellows: Robert Heath Mew. Ernest William George Short. Thomas Taylor.

As Retired Associates: William David Gravell. Thomas Abel Parker. Arthur Howard Thomas.

As Retired Licentiates: Tom Burnley. Herbert W. Harding. Arthur Raymond Pratt Piercy.

Allied Societies

SOUTH-EASTERN SOCIETY OF ARCHITECTS

Annual General Meeting

At the annual general meeting of the above Society, held at the R.I.B.A. on 17 June, the following were elected as officers for the ensuing year:—

President: Mr. R. Goulburn Lovell, F.R.I.B.A.

Vice-Presidents: (Brighton) Charles Richard Bayly Godman, F.R.I.B.A.; (Canterbury) Harold Anderson, F.R.I.B.A.; (Croydon), Frederick William Rees, L.R.I.B.A.; (Guildford) Arthur John Stedman, F.R.I.B.A.; (Tunbridge Wells) Stanley Philpot, F.R.I.B.A.

Hon. General Treasurer: Mr. Cecil Burns, F.R.I.B.A.

Hon. General Secretary: Mr. Colin Hay Murray, F.R.I.B.A.

Hon. General Auditor: Mr. John Leopold Denman, F.R.I.B.A.

The report of the Council for the year ending June 1935 was presented to the meeting. The total membership of the Society is now 1,034, the number of Fellows, Associates and Licentiates of the Society representing more than 10 per cent. of the Fellows, Associates and Licentiates in the 1935 R.I.B.A. *Kalendar*. A satisfactory balance was also reported, in spite of large donations having been made to the R.I.B.A. New Premises Fund, the A.B.S., and approximately £250 expended on educational work.

Prizes were offered by the Society for design programmes, measured drawings, architectural sketches and mechanics. Eight students of the Design Clubs passed the R.I.B.A. Final and Intermediate Examinations. The Courses of Lectures on Historical Architecture were held, and a number of prominent architects gave lectures on modern architecture, its practice and problems, the lectures being extremely well attended.

The work of the Advisory Panels and the Consultative Board of Architects and Builders was also reported.

SCHOOL NOTES

THE BARTLETT SCHOOL OF ARCHITECTURE

The following awards have been made at University College, London, in the Bartlett School of Architecture:—

Entrance Exhibitions: J. R. Stammers (Whitgift School, Croydon) and A. P. B. G. Sutton (Latymer Upper School, Hammersmith).

Donaldson Silver Medal (awarded by the Royal Institute of British Architects): N. E. Block.

Herbert Batsford Prize: L. F. Baker.

Architects' Journal Prize (for the best final design produced in the Day School by a 4th Year Degree or Diploma Student): A. G. Ling.

The Builder Prizes (for the best sets of measured drawings of old work): Senior: A. G. Ling and D. E. Morrison; Junior: T. D. Oxley and J. K. Wearing (equal).

Building Prize (for best set of drawings, combining construction and design, by a 4th Year Student): D. E. Morrison.

Prize for Design in Ferro-Concrete: G. E. Cassidy.

Architecture Atelier: Bossom Silver Medal: A. J. Prior; Bossom-Davis Silver Medal: N. K. Siang.

The following have obtained the Diploma in Architecture:—

D. C. Earle, G. I. Goulden, G. C. Kendrew, T. A. H. Medlycott.

The following have obtained the Certificate in Architecture:—

P. Braby, R. W. Cave, F. W. Holland, W. E. F. Johns, R. A. Kayll, B. B. Learoyd, Simonne P. L. Linssen, Margaret R. Mathers, B. C. Maynard, P. F. Nightingale, L. D. O'Brien, L. A. Porri, Ann Rowntree, G. W. E. Rumsby, N. K. Siang, J. K. Wearing.

The following have obtained the Certificate in Decoration:—

Sara H. Blower, A. Jean B. Morton, T. W. Plaistowe, E. D. Race.

The following have obtained the Certificate in Town Planning:—

F. Beaumont, D. H. Deare, D. FitzGerald, E. J. Judd, K. W. Judd, J. W. Rough, C. P. Saurin, H. J. Somjee, W. L. Waide.

R.W.A. SCHOOL OF ARCHITECTURE

The R.W.A. School of Architecture, Bristol, has moved from its old premises in Charlotte Street to 25 Great George Street, Park Street, Bristol.

THE WELSH SCHOOL OF ARCHITECTURE

Students' Visit to Stratford-on-Avon

On Friday, 5 July, the Students of the Welsh School of Architecture, The Technical College, Cardiff, accompanied by Mr. Lewis John, M.A., A.R.I.B.A., and Mr. A. C. Light, B.A., A.R.I.B.A., paid a visit to the Shakespeare Memorial Theatre, Stratford-on-Avon.

In the afternoon the party was conducted over the building, and during the inspection a number of interesting technical details were explained. Considerable interest was shown in the scheme of internal decoration, which was particularly instructive. Unfortunately, it was not possible to inspect the stage, dressing-rooms, etc.

Both the trip and the visit were thoroughly enjoyed by the members of the party.

Exhibition of Architectural Drawing.

An exhibition of Architectural Designs, Measured Drawings, Working Drawings, etc., has been arranged by the South Wales Institute of Architects, Central Branch, in conjunction with the Welsh School of Architecture, the Technical College, Cardiff.

The Exhibition, which was held in the Assembly Hall of the Technical College, Cardiff, on Thursday, 4 July, from 1 p.m. to 6.30 p.m., was of a somewhat unusual character, as it did not consist of selected portions of the work of various students but of as much as could be shown in the space available of the work done by one student (Mr J. R. Sheridan Shedden) throughout the five years' course leading to exemption from the Final Examination for Associateship of the Royal Institute of British Architects and qualifying for Registration under the Architects' Registration Act.

The Exhibition, which was well attended, proved particularly interesting in showing the development of the work from the elementary studies in the first year to the Advanced Designs, Working Drawings and Theses of the fifth year.

At the Annual Sports of the Cardiff Technical College, held on 12 June in the College grounds, Cardiff Castle, the students of the Welsh School of Architecture played a prominent part, winning for the third time in succession the H. H. Merrett Shield awarded to the department winning the greatest number of events.

In the departmental events the Welsh School of Architecture was placed first in the Swimming Squadron Race, in the Tug of War, and second in Tennis.

In the individual events many successes were secured by students of the Welsh School of Architecture, including the following:—

Victor Ludorum	D. Graham Cuming
Mile Championship	1st, D. Graham Cuming
Half Mile Championship ..	1st, D. Graham Cuming (Lowering the College record by nearly 6 secs.)
Quarter Mile Championship ..	1st, D. Graham Cuming
120 yds. Hurdle	1st, D. Graham Cuming
120 yds. Hurdle	2nd, W. T. Williams
High Jump	3rd, D. Graham Cuming
220 yds. Championship ..	1st, W. T. Williams
100 yds. Championship	1st, W. T. Williams
Putting the Shot	1st, J. Selby Davies
Putting the Shot	2nd, W. T. Williams
Women's 220 yds.	Miss B. Treatt
100 yds. Swimming Championship	1st, I. N. Jones
50 yds. Swimming Handicap ..	1st, A. M. Jones
50 yds. Medley Race	1st, I. N. Jones
Diving Championship	1st, I. N. Jones

Membership Lists

APPLICATIONS FOR MEMBERSHIP ELECTION: 21 OCTOBER 1935

In accordance with the terms of Bye-laws 10 and 11, an election of candidates for membership will take place at the Council Meeting to be held on Monday, 21 October 1935. The names and addresses of the candidates, with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and Bye-laws are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary R.I.B.A. not later than Tuesday, 20 August 1935.

AS HON. ASSOCIATES (3)

CHARLEMONT: THE RT. HON THE VISCOUNT, P.C., H.M. Vice-Lieutenant, Co. Tyrone; Drumcairne, Stewartstown, Co. Tyrone, Northern Ireland. Proposed by the Council.

GILL: ARTHUR ERIC ROWTON, Piggotts, High Wycombe, Bucks. Proposed by the Council.

SHELLEY: ADRIAN NOEL CHRISTIAN, M.A., B.C.L.(Oxon.), Barrister-at-Law, 1 Mitre Court Buildings, Temple, E.C.4. Proposed by the Council.

AS FELLOWS (7)

DANGERFIELD: PAUL [*A.* 1921], Public Works Department, Nairobi, Kenya. Proposed by R. Stanley Cobb, Sir Herbert Baker and H. L. Geeson.

VELARDE: FRANCIS XAVIER, B.Arch.Liverpool [*A.* 1925], 3 Abercromby Square, Liverpool; 7A Abercromby Square, Liverpool. Proposed by Professor C. H. Reilly, Bernard Miller and Professor Lionel B. Budden.

And the following Licentiates who have passed the qualifying Examination:—

BANYARD: GEORGE PHILIP, 4A Market Street, Cambridge; The Coppice, Long Road, Cambridge. Proposed by H. H. Dunn, H. C. Hughes and N. T. Myers.

MARSHALL: CHARLES BERESFORD, 9 New Cavendish Street, W.1; 14 New Cavendish Street, W.1. Proposed by F. C. Bayliss, P. T. Wilsdon and L. Stanley Crosbie.

ROBERTSON: JAMES DAVID, Library Buildings, Bulawayo, Southern Rhodesia; "Comarques," Kumalo, Bulawayo. Proposed by J. R. Hobson, J. A. Cope Christie and D. MacGillivray.

SEAL: ARTHUR JOHN, Theatre Chambers, Hinton Road, Bournemouth; 35 Grove Road, Bournemouth. Proposed by Wallace A. Greenen, A. G. S. Bailey and Henry R. Collins.

SHERWOOD: HARRY, East Ashling, near Chichester. Proposed by Thomas Rayson, MacDonald Gill and C. G. Stillman.

AS ASSOCIATES (18)

BAKER: HARRY GEORGE [Passed five years' course at the Birmingham School of Architecture. Exempted from Final Examination], 254 Alcester Road South, King's Heath, Birmingham. Proposed by George Drysdale, John B. Surman and H. Peter Hing.

COOPER: MISS SHEILA MARY [Passed five years' course at the Architectural Association. Exempted from Final Examination], 142 Sutherland Avenue, W.9. Proposed by Howard Robertson, G. W. Armstrong and John Grey.

DREW: MISS JOYCE BEVERLEY [Passed five years' course at the Architectural Association. Exempted from Final Examination], 28 Brunswick Square, W.C.1. Proposed by John Grey, Howard Robertson and L. H. Bucknell.

HILL: LESLIE HOWARD [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], 33 Drummond Place, Edinburgh. Proposed by H. O. Tarbolton, John Begg and Reginald Fairlie.

HOLLINGS: MISS PHYLLIS GAUNT [Passed five years' course at the Architectural Association. Exempted from Final Examination], 26 Moffat Road, N.13. Proposed by Howard Robertson, John Grey and Stanley Towse.

LUCAS: SYDNEY WALTER [Passed the qualifying Examination approved by the Board of Architectural Education of the Royal Australian Institute of Architects], 13 Blakesley Road, South Hurstville, New South Wales. Proposed by E. Evan Smith, B. J. Waterhouse and Arthur Wm. Anderson.

NORCLIFFE: HOWARD [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], 24 Oxton Road, Wallasey, Cheshire. Proposed by Professor Lionel B. Budden, Edward R. F. Cole and Kenmure Kinna.

RANGELEY: JACK [Passed five years' course at the School of Architecture, Victoria University, Manchester. Exempted from Final Examination], 4 Green Walk, Green Lane, Hendon, N.W.4. Proposed by Professor R. A. Cordingley and applying for nomination by the Council under the provisions of Bye-law 3(*d*).

ROXBURGH: CHARLES WALLACE [Special Final Examination], "Leamville," Church Street, Claremont, Cape Town, South Africa. Proposed by John Perry, F. K. Kendall and James Morris.

SCHOFIELD: JAMES [Passed five years' course at the School of Architecture, Victoria University, Manchester. Exempted from Final Examination], Red Brook, Redisher Lane, Holcombe Brook, near Bury. Proposed by Samuel Taylor, Professor R. A. Cordingley and Arthur Brocklehurst.

SLADE: CHARLES JOHN [Passed qualifying Examination approved by the Board of Architectural Education of the Institute of South African Architects], 70 Algernon Road, Norwood, Johannesburg. Proposed by S. C. Dowsett, Robert Howden and W. C. von Berg.

SMITH: HERBERT SPENCER [Passed five years' course at the Architectural Association. Exempted from Final Examination], 19 Taviton Street, W.C.1. Proposed by P. W. Hubbard, W. C. Symes and Kenneth M. B. Cross.

SYME: RAYMOND WALTER [Passed five years' course at the School of Architecture, University College, Auckland, New Zealand. Exempted from Final Examination], 5 George Street, Hawera, New Zealand. Applying for nomination by the Council under the provisions of Bye-law 3 (*d*).

THACKRAH: RONALD [Passed five years' course at the School of Architecture, Leeds College of Art. Exempted from Final Examination], "Balgownie," Pool-in-Wharfedale, Yorks. Proposed by B. R. Gribbon, G. H. Foggitt and Victor Bain.

THOMERSON: DOUGLAS ALBERT [Passed five years' course at the Architectural Association. Exempted from Final Examination], "Little Oaks," Manor Road, Chigwell, Essex. Proposed by Howard Robertson, John Grey and G. W. Armstrong.

TODD: SIDNEY HERBERT, Dip.Arch.(Rand.) [Passed the qualifying Examination approved by the Board of Architectural Education of the Institute of South African Architects], Public Works Department, Pretoria, South Africa. Proposed by J. G. H. Holdgate, Gordon Leith and Robert Howden.

TUCKER: ERIC GORDON [Passed the qualifying Examination approved by the Board of Architectural Education of the Institute of South African Architects], Stability Buildings, 106 Fox Street, Johannesburg, South Africa. Proposed by Gordon Leith, Robert Howden and M. J. Harris.

WALLS: HERBERT FORREST [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], 61 Kensington Gardens Square, W.2. Proposed by Professor Lionel B. Budden, Edward R. F. Cole and J. E. Marshall.

AS LICENTIATES (7)

COCKBURN: SAMUEL, Ministry of Finance, Government of Northern Ireland; "Enderley," Chichester Park, Belfast. Proposed by R. Ingleby Smith, Kendrick Edwards and T. W. Henry.

JACKSON: WALTER, 17 Piccadilly, Bradford; Burley Lawn, Burley-in-Wharfedale. Proposed by Wm. Illingworth, T. Butler Wilson and Victor Bain.

MINCHIN: WILLIAM CLAYTON, D.C.M., Architects' Department, London County Council; 14 Barnfield Road, Ealing, W.5. Proposed by E. P. Wheeler, Fredk. R. Hiorns and E. G. Bax.

PRINCE: ERIC, Architects' Office, L.M. and S. Railway, Derby; The White Cottage, Duffield, Derbyshire. Proposed by H. J. Connal, Major Charles H. Calvert and John Woollatt.

SAVAGE: BASIL ARTHUR, Messrs. Timothy Whites and Taylors, Ltd., Chandos Street, Portsmouth; 72 Collins Road, Southsea. Proposed by Ernest J. Thomas, W. F. Foster and A. Leonard Roberts.

STRANGE: CLIFFORD SIDNEY, 1 Montague Place, Bedford Square, W.C.1; 16 King Street, W.1. Proposed by Thos. S. Tait, H. V. Lanchester and Stanley Hamp.

WHITE: EDWARD ARTHUR, Architects' Department, General Post Office, E.C.; 8 Freshwaters, Netteswell, Harlow, Essex. Proposed by C. Bouton Smith, Wm. B. Binnie and H. Chalton Bradshaw.

ELECTION OF MEMBERS, 22 JULY 1935

In accordance with the terms of Bye-laws 10 and 11, the following candidates for membership were elected at the Council Meeting held on Monday, 22 July 1935.

AS FELLOWS (11)

BROOKE: JOHN TALLENTS WYNYARD [*A.* 1906], Shanghai.
HIGGINS: WILLIAM THOMAS [*A.* 1911], Aylesbury.
HOLLINS: GEORGE [*A.* 1910], Newcastle, Staffs.
HUTTON: ARTHUR JAMES SCOTT [*A.* 1918], Kenya Colony.
TAPPER: MICHAEL JOHN, M.C. [*A.* 1911].

And the following Licentiates who have passed the qualifying Examination:—

DAWSON: HENRY HARDWICK, Nottingham.
GOMM: WILLIAM JAMES.
PADMORE: PERCEVAL MITCHELL, Llanfairfechan.
SMITH: DAVID, Dundee.

And the following Licentiates who are qualified under Section IV, Clause 4 (c. ii) of the Supplemental Charter of 1925:—

BROOKS: ARNOLD EDWIN, Brisbane.
OLIVER: MAJOR HENRY, T.D.

AS ASSOCIATES (16)

CHAMBERS: FRANK PENTLAND, M.A. [Special Final Examination].
COWLEY: GEORGE JAMES DOUGLAS [Final], Calne.
DUCKETT: BASIL GEORGE [Passed five years' course at the School of Architecture, Victoria University, Manchester. Exempted from Final Examination].
GICK: MISS MARGARET CECILY [Final].
HADJIDEMETRION: ANDREAS [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination].
HOPKINS: CYRIL EGERTON, B.A. [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination].
MARSHALL: CHARLES JOHN EVELYN [Passed five years' course at the Architectural Association. Exempted from Final Examination], Colchester.
OSBORNE: CLIVE DEBENHAM [Passed the qualifying examination approved by the Board of Architectural Education of the Royal Australian Institute of Architects], Sydney.
POLICANSKY: MAX [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Cape Town.
RAMSINH: KUMAR [Passed five years' course at the Architectural Association. Exempted from Final Examination], Bombay.
ROBERTS: HUGH DUCKWORTH [Passed five years' joint course at the Birmingham School of Architecture and the Architectural Association. Exempted from Final Examination].
ROBSON: HARRY STANLEY, B.Arch. [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Liverpool.
STUBBS: ROSS LEWIS [Passed the qualifying Examination approved by the Board of Architectural Education of the Royal Australian Institute of Architects], Victoria.
WILSON: ARTHUR GERALD [Passed the qualifying Examination approved by the Board of Architectural Education of the Royal Australian Institute of Architects], Sydney.
WILSON: RICHARD [Passed five years' course at the Architectural Association. Exempted from Final Examination].
WOODS: BERTRAM MEREDITH [Passed qualifying Examination approved by the Board of Architectural Education of the Institute of South African Architects], Port Elizabeth.

AS LICENTIATES (12)

ASHWORTH: ERNEST, Plymouth.
COX: RICHARD GEORGE,
FOX: RONALD FRANK.
HENDRY: WILLIAM FYFE, Umtali, Southern Rhodesia.
JURY: ARTHUR EDWARD, Belfast.
KEIGHLEY: HARRY ATKINSON, Bolton.
LANE: GEORGE CHARLES, Gravesend.
OWEN: HENRY EGERTON WINTER, Littlehampton.
PHILLIPS: FRANCIS HARRY EDWARD.
PREWETT: PHILIP GERALD, Exeter.
THOMPSON: GEORGE CLIFFORD.
WINTER: RICHARD BLYTH, Stevenage.

ELECTION OF STUDENTS R.I.B.A.

The following were elected as Students R.I.B.A. at the meeting of the Council held on 22 July 1935.

DHUNANDHAR: SANDER MOTIRAM, "Relief," 10th Road, Khar, India.
HUGHES: NORMAN CEDRIC, "The Knoll," 97 Westwood Road, Tilehurst, Reading.
LITTLE: MAURICE EDGAR, "Anfield," Queen's Road, Ashton-on-Mersey, Cheshire.
MEARS: ERNEST JAMES, 53 Lauderdale Street, Edinburgh.
SCOTT: (MISS) STELLA MARCIA, 24 Mannering Road, Shawlands, Glasgow, S.1.

PROBATIONERS

During the month of June 1935 the following were enrolled as Probationers of the Royal Institute :—

ALGER: HENRY WILLIAM, 103 Dymchurch Road, Hythe, Kent.
ARTHUR: PETER RANDALL, 111 Church Lane, Handsworth Wood, Birmingham, 20.
ASH: RAYMOND JOHN, 74 Lutterworth Road, Nuneaton.
BAKER: LAWRENCE FREDERICK, 70 Crowborough Road, Tooting, S.W.17.
BAKER: LAURENCE WILFRED, 6 King's Road, Erdington, Birmingham.
BAKER: RAYMOND PETRIE, 57 Marine Parade, Brighton, Sussex.
BARNES: ANTHONY STUART, 11 Lyndhurst Road, Exmouth, S. Devon.
BARTON: JOHN CARMICHAEL, 53 Moreton Street, S.W.1.
BEAVIN, GORDON STANLEY, 16 Piedmont Road, Plumstead, S.E.18.
BERESFORD: BARBARA MARY, Beverley House, Newbridge Avenue, Wolverhampton.
BETTS: DOUGLAS W., "Dromore," Nuthall Road, Old Basford, Notts.
BOGAN: JAMES HENRY PERRYMAN, 9 Park View, Victoria Road, Cork, I.F.S.
BOWER: THOMAS, "Oakroyd," Thornton, Bradford, Yorks.
BROWN: ALFRED NORMAN, 103 Lapwing Lane, Didsbury, near Manchester.
BURROWS: WALTER FREDERICK, 64 Gassiot Road, Tooting, S.W.17.
CARMAN: JOHN RESTALL WHITEHEAD, Rastall, Longmore Lane, Sandiacre, near Notts.
CHAN: KWOK KOON, Liverpool School of Architecture, University of Liverpool.
CLARK: REGINALD WILLIAM, 11 Maiden Lane, Stamford, Lincs.
CLEWER: SELBY JAMES, "Hillside," Hyde Lane, Kinver, Staffs.
COOKE: GRAHAME GEORGE, 80 Regent Road, Handsworth, Birmingham, 21.
CORLETT: FRED, 24 Loch Promenade, Douglas, Isle of Man.
COTTON: GEORGE THOMAS, 27 Rectory Street, Wordsley, near Stourbridge.
CURTIS: HILARY, 26 Hillway, London, N.6.
CREED: LESLIE G., 43 Crampton Road, Penge, S.E.20.

DARBISON: DENNIS, 30 Collingham Place, S.W.5.
DAVIES: CHARLES EWART, Brookville, Cwmlline, Machynlleth, Montgomeryshire.
DAVISON: PHILIP LEONARD, 46 Muskoka Drive, Sheffield, 11.
DOD: KENNETH LOGAN, "Ormiston," Warnock Lane, Lower Willingdon, Sussex.
EARP: WILLIAM GEOFFREY, West Dene, St. Seirols Road, Llandudno.
FEESEY: JOSEPH JACK, 63 Westcliff Park Drive, Westcliff-on-Sea, Essex.
FITZGERALD: DESMOND, Fairy Hill, Bray, Co. Wicklow.
FLETCHER: HARVEY VICTOR, 68 Willow Road, Darlington.
FOY: JOHN DORIC, 47 Chestnut Avenue, Walkden, nr. Manchester.
FROGBROOK: HAROLD LEWIS, 4 St. George's Road, Worthing, Sussex.
GARDINER: GEORGE CLIFFORD, 76 Bedford Street South, Liverpool, 7.
GORDON: ALEXANDER JOHN, "Woodstock," Brookvale, West Cross, Mumbles, Glam.
GREENING: GEORGE KENNETH, "Eighty," Harlaxton Drive, Nottingham.
HAGUE: DOUGLAS BLAND, Countisbury, Dorridge, nr. Birmingham.
HARPER: DENNIS ROSSLYN, Gt. Hytall, Widney Manor, Solihull.
HARRIS: JOHN SEYMOUR, "Hucclecote," Oakwood Road, Wylde Green, Sutton Coldfield.
HARRIS: MAURICE HENRY, 2 Park Street, Foleshill, Coventry.
HASTILOW: NOEL, 280 Penns Lane, Walmley, Erdington, Birmingham.
HENRY: THOMAS EDWARD FITZGERALD, 6 Malone Hill Park, Belfast.
HILL: FREDERICK ALEXANDER ROWLAND, 45 Adshead Road, Dudley.
HILTON: CHARLES, 34 Repton Avenue, Hollins, Oldham, Lancs.
HOLLOWAY: BRIAN EDGAR HAMILTON, 30 Cranleigh Road, Merton Park, S.W.19.
HUTTON: CECILY MARGUERITE, 33 Melville Road, Edgbaston, Birmingham, 16.
IDEN: CHARLES FRANK, 15 Station Parade, W. Worthing, Sussex.
JAMES: ERIC RALPH, 3 London Road, High Wycombe, Bucks.
JENKINSON: JOHN MARK MANSELL, 10 Rundle Road, Sheffield, 7.
JOLLY: JACK EDWARD, "Highams," Manor Road, Esher, Surrey.
KAY: PERCY, 52, Abbotsford Road, Oldham.
KELLETT: KEITH GORDON, 36 Florence Street, Newcastle, Staffs.
KEMP: RONALD GEORGE, 16 Broomfield Avenue, N.14.
KNOWLES: JOHN EDWARD, "Birkford," Shelwell New Road, Latchford, Warrington, Lancs.
LACEY: JOHN STEPHEN, 37 Hampstead Lane, Highgate, N.6.
LANCASTER: WILLIAM DOUGLAS, "The Elm Hotel," Wembley, Middlesex.
LAWSON: GEORGE WITHAM, Blankney Lodge, Station Road, Wylde Green, Birmingham.
LEVER: HERBERT, 202 Middleton Road, Heywood, Lancs.
LITTLE: JAMES, c/o Barclays Bank, 104 London Road, Liverpool.
LUCAS: SYDNEY WALTER, 13, Blakesley Road, South Hurstville, New South Wales, Australia.
LUMB: TOM GROUNDS, 19 Clifton Street, Blackpool.
LUNN: JOHN TALBOT, 528 Bexhill Road, St. Leonards-on-Sea.
MACDONALD: DONALD JAMES, c/o Mrs. McHattie, 87 Westburn Road, Aberdeen.
MARTIN: WILLIAM ALEXANDER, 484 Walsall Road, Handsworth, Birmingham, 20.
MEADOWS: ROBERT KAGLAND, 64 Anlaby Park Road, N. Hull, Yorks.
MILES: WILLIAM NAPIER MAURICE, Walton-in-Gordano, Clevedon, Somerset.
MOORHOUSE: LLEWELLYN, "Highfield," Yewdale Road, Harrogate, Yorks.
MORGAN: BERNARD GEORGE, Gorphwysfa, Awon Avenue, Llandudno.
MUIRHEAD: WILLIAM, 34 Napier Place, Bainsford, Falkirk.
MURRAY: JAMES, c/o Alder, 22 Lochrin Buildings, Edinburgh.
MYTTON: JOHN, 44 Lea Road, Wolverhampton.
NORTH: CLIFFORD, 94 Stockton Lane, York.
OSBORNE: JOHN LANDER, 644 Warwick Road, Solihull, Warwick.
PALSHIKAR: SHRIPAD SHANKAR, c/o Messrs. Gregson, Batley and King, Chartered Architects, Chartered Bank Buildings, Fort, Bombay, India.
PERCIVAL: DAVID EYRE, 7 Wycombe Gardens, London, N.W.11.
PRIVETT: KENNETH, Cottage Grove, Southsea.
REED: RICHARD ERNEST, 18 Disraeli Road, Forest Gate, E.7.
REID: MARY LOUISA JEAN PAYTON, 10 Glengyle Terrace, Edinburgh.
SHARMA: CHARAN DAS, c/o J. R. Anderson, Esq., Mason Buildings, The Mall, Lahore, India.
SHARP: JAMES JOHN, 21 Clayton Road, St. David's, Exeter.
SHIPLEY: JACK, Langtoft, Gorway Road, Walsall.
SIMPSON: MALCOLM JAMES, 15 Westbourne Road, Luton, Beds.
SMITH: CLARENCE ARNOLD STANLEY, Wootton Old Farm, New Milton, Hants.
SMITH: EDWARD WATSON, 71 Claypath, Durham City.
SMITH: ROY GEORGE, "Iona," Pages Lane, Great Barr, Birmingham.
SMYTH: BASIL STAUNTON, c/o High Commissioner for New Zealand, New Zealand House, 415 Strand, London.
TARAPORVALA: DORABJI VICAJI, 621 Parsi Colony, Dadar, Bombay, India.
TAYLOR: LEONARD, 5 Burstock Road, Putney Bridge Road, S.W.15.
TAYLOR: PHILIP ARNOLD, 38 Leam Terrace, Leamington Spa, Warwick.
TAYLOR: THOMAS, 48 Phipson Road, Sparkhill, Birmingham, 11.
TAUNTON: JOAN MARGARET, 90 FitzRoy Avenue, Harborne, Birmingham.
TEMPERLEY: ELIZABETH, "Green Rigg," Patterdale, Westmorland.
THOMS: KENNETH OGILVIE, 14 Coates Gardens, Edinburgh.
TORDOFF: SAMUEL WATKINSON, Woodlands, Baildon, near Bradford, Yorks.
TUCKER: ERIC GORDON, 4 Seymour Avenue, Parktown West, Johannesburg, S. Africa.
WEBSTER: DOUGLAS ALAN STUART, 44 Lowndes Square, London, S.W.1.
WEEDON: ALAN TREVOR, Kenwyn, Lichfield Road, Four Oaks, Birmingham.
WHITFIELD: KENNETH WALTHAM, 76 Bedford Street, Liverpool.
WIGHTMAN: KENNETH LIHOU, "Eastcote," Wigginton Road, Tamworth, Staffs.
WILLIAMS: CHRISTOPHER LIDDELL, 272 Waterloo Road, Cobridge, Stoke-on-Trent.
WILLS: GERALD, The Square, Midsomer Norton, near Bath.
WRAY: NOEL ELSWORTH, 4 Bedford Square, W.C.1.

Notices

THE R.I.B.A. KALENDAR 1935–36

The attention of members is drawn to the leaflet enclosed with the JOURNAL issued on 8 June. Changes of address, etc., for inclusion in the forthcoming issue of the *Kalendar* must be notified to the Secretary, R.I.B.A., BEFORE SATURDAY, 31 AUGUST.

REVISION OF THE R.I.B.A. SCALE OF PROFESSIONAL CHARGES

In accordance with the terms of Bye-law 38, the Council published in the JOURNAL of 29 June, for the comments or criticisms of members, the proposal to add to Clause 1 (h) of the Scale of Professional Charges the following paragraph which was provisionally approved by them on 24 June:—

> "Where it is agreed to retain the services of a Consultant in no case shall the Architect's fee be reduced by more than 1 per cent. on the cost of the work upon which the services of the Consultant are retained."

No comments or criticisms were received from members, and the Council at their meeting on 22 July 1935 formally ratified the amendment.

THE R.I.B.A. REGISTER OF ASSISTANTS SEEKING ENGAGEMENTS

Members and Students of the R.I.B.A. and the Allied and Associated Societies are reminded that a Register of Assistants seeking engagements is kept at the offices of the Royal Institute.

An assistant seeking employment should obtain from the Secretary R.I.B.A. the necessary form (to be filled up in duplicate) on which particulars must be given as to the applicant's age, qualifications, salary required, references, etc.

The application will hold good for one month from the date of receipt, after which it must be renewed unless the applicant has meanwhile obtained employment.

Architects, whether members of the R.I.B.A. or not, will be furnished on application with the names and addresses of persons desiring employment as assistants, improvers or clerks of works as the case may be. Architects applying for assistants should give the following particulars of their requirements: (1) whether temporary or permanent engagement; (2) junior or senior assistants; (3) particulars of duties and style of work; (4) salary offered.

REJECTION OF ARCHITECTS' DESIGNS BY LOCAL AUTHORITIES

Under the 1932 Town and Country Planning Act, Local Authorities have power to reject elevations which they consider are harmful to the amenities of the neighbourhood.

Many Local Authorities have consulted the Panel of Architects set up by the C.P.R.E. and the R.I.B.A. in connection with the elevations of buildings. There have been instances, however, where Councils, without a skilled Adviser, have rejected the plans of qualified Architects on æsthetic grounds.

Members of the Institute who have had plans rejected in this way are asked to notify the Secretary.

OVERSEAS APPOINTMENTS

When members are contemplating applying for appointments overseas they are recommended to communicate with the Secretary R.I.B.A., who will supply them with any available information respecting conditions of employment, cost of living, climatic conditions, etc.

BUILDING SURVEYING EXAMINATIONS

The R.I.B.A. Statutory Examination qualifying for candidature as District Surveyor in London and the R.I.B.A. Examination qualifying for candidature as Building Surveyor under Local Authorities will be held at the R.I.B.A. on 9, 10 and 11 October 1935. Applications for admission to the examinations must be received not later than 18 September 1935.

CESSATION OF MEMBERSHIP

Under the provisions of Bye-law 21, the following has ceased to be a member of the R.I.B.A.:—

As Licentiate

Ernest George Wilks.

Competitions

The Council and Competitions Committee wish to remind members and members of Allied Societies that it is their duty to refuse to take part in competitions unless the conditions are in conformity with the R.I.B.A. Regulations for the Conduct of Architectural Competitions and have been approved by the Institute.

While, in the case of small limited private competitions, modifications of the R.I.B.A. Regulations may be approved, it is the duty of members who are asked to take part in a limited competition to notify the Secretary of the R.I.B.A. immediately, submitting particulars of the competition. This requirement now forms part of the Code of Professional Practice in which it is ruled that a formal invitation to two or more architects to prepare designs in competition for the same project is deemed a limited competition.

PROPOSED COMPETITION FOR NEW OFFICES, HINDUSTHAN CO-OPERATIVE INSURANCE SOCIETY, LIMITED, CALCUTTA

Members of the Royal Institute of British Architects and of its Allied Societies must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

BOLTON: NEW MUNICIPAL TECHNICAL COLLEGE

The Corporation of the County Borough of Bolton invite architects of British nationality to submit, in competition, designs for a new Municipal Technical College proposed to be erected in Manchester Road, Bolton.

Assessors: Mr. J. Bradshaw Gass [*F.*] and Mr. A. J. Hope [*F.*].
Premiums: £500, £250 and £100.
Last day for receiving designs: 31 October 1935.
Last day for questions: 17 August 1935.

Conditions of the competition may be obtained on application to Mr. John A. Cox, M.A., Director of Education, Education Offices, Bolton. Deposit £2 2s.

BRIGHTON: NEW FIRE STATION

The Council of the County Borough of Brighton invite architects of British nationality and resident in the British Isles to submit in competition designs for a new Fire Station.

Assessor: Mr. Stanley G. Livock [*F.*].
Premiums: £200, £125 and £75.
Last day for receiving designs: 5 October 1935.
Last day for questions: 30 July 1935.

Conditions of the competition may be obtained on application to Mr. J. G. Drew, Acting Town Clerk, Town Hall, Brighton. Deposit £1 1s.

BURY: NEW TOWN HALL

The Council of the County Borough of Bury invite architects of British nationality domiciled in the United Kingdom to submit in competition, designs for a new Town Hall.

Assessor: Mr. J. Hubert Worthington, O.B.E. [*F.*].
Premiums: £500, £300 and £150.
Last day for receiving designs: 31 December 1935.
Last day for questions: 30 September 1935.

Conditions of the competition may be obtained on application to The Town Clerk, Municipal Offices, Bury, Lancs. Deposit, £2.

HERTFORD: NEW CENTRAL COUNTY BUILDINGS

The Hertfordshire County Council invite architects to submit, in competition, designs for new Central County Buildings to be erected at Hertford.

Assessor: Mr. Robert Atkinson [*F.*].
Premiums: £350, £250 and £150.
Last day for receiving designs: 1 October 1935.
Last day for questions: 1 July 1935.

Conditions may be obtained on application to The Clerk of the County Council, Clerk of the Peace Office, Hertford. Deposit £2 2s.

LIVERPOOL: LAY-OUT OF BUILDING ESTATE, DESIGN OF HOUSES, GARDENS, ETC.

The Liverpool Building Trades Exhibition invite architects of British nationality to submit in competition designs showing the lay-out of a building estate and the design of houses, gardens, etc. Drawings required are divided into seven sections comprising lay-out, plans, elevations, perspectives, etc., and a prize of £10 is offered for the best design in each section. There is also a prize of £10 for the best report and a further £30 to be distributed in accordance with the Assessors' recommendations.

Assessors: Lt.-Col Ernest Gee R.E. [*F.*], President of the Liverpool Architectural Society; Professor Patrick Abercrombie, M.A. [*F.*]; Mr. Leonard Barnish [*F.*].

Last day for receiving designs: 2 September 1935.

Conditions of the competition may be obtained on application to the Competition Manager, Provincial Exhibitions, Ltd., Renshaw Hall, Renshaw Street, Liverpool, 1.

PORTSMOUTH: LAY-OUT OF LUMPS FORT SITE

The Corporation of the City of Portsmouth invite architects to submit, in competition, designs for the lay-out of an area known as Lumps Fort.

Assessor: Mr. E. Prentice Mawson, M.T.P.I. [*F.*].

Premiums: £350 and £200 to be divided between the authors of not more than three designs placed next in order of merit.

Last day for receiving designs: 16 October 1935.

Last day for questions: 31 July 1935.

Conditions of the competition may be obtained on application to Mr. F. J. Sparks, Town Clerk, The Guildhall, Portsmouth. Deposit £1 1s.

SALISBURY, SOUTHERN RHODESIA: NEW PARLIAMENT HOUSE

The Government of the Colony of Southern Rhodesia invite architects of British citizenship to submit in competition designs for a new Parliament House to be erected at Salisbury, Southern Rhodesia.

Assessor: Mr. James R. Adamson [*F.*].
Premiums: £500, £300, £200 and £100.
Last day for receiving designs: 31 January 1936.
Last day for questions: 26 August 1935.
Conditions of the competition may be obtained:—

(*a*) in England from the High Commissioner for Southern Rhodesia, Crown House, Aldwych, London, W.C.2.

(*b*) in South Africa from The Director of Public Works, P.O. Box 365, Salisbury, Southern Rhodesia. Deposit £2 2s.

SUTTON COLDFIELD: NEW SCHOOLS

The Borough of Sutton Coldfield Local Authority are holding competitions for new public elementary schools on two sites at Boldmere. The competitions are open to Registered Architects whose addresses are within the area of the Birmingham and Five Counties Architectural Association.

Assessor: Mr. A. C. Bunch [*F.*].
Premiums: £100, £50 and £30 in each competition.
Last day for receiving designs: 20 September 1935.
Last day for questions: 12 July 1935.

SWINDON: NEW MUNICIPAL OFFICES

The Corporation of Swindon invite architects of British nationality and resident in the British Isles to submit, in competition, designs for new Municipal Offices.

Assessor: Mr. A. B. Knapp-Fisher [*F.*].
Premiums: £350, £250 and £150.
Last day for receiving designs: 31 August 1935.
Last day for questions: 25 May 1935.

YORK: NEW MUNICIPAL OFFICES, CLINICS, ETC.

The Corporation of York invite architects of British nationality and domiciled in the United Kingdom to submit, in competition, designs for new Municipal Offices, Clinics, etc.

Assessor: Mr. Henry V. Ashley [*F.*].
Premiums: £250, £150, £100 and £50.
Last day for receiving designs: 1 November 1935.
Last day for questions: 29 July 1935.

COMPETITION FOR TIMBER HOUSES

The Timber Development Association, Ltd. invite architects of British nationality to submit in competition designs for:

(1) A Timber House to cost £800.
(2) A Timber Week-end Cottage to cost £350.

Assessors: Mr. Robert Atkinson [*F.*].
Mr. E. Maxwell Fry [*A.*].
Mr. G. Grey Wornum [*F.*].

Premiums: £100, £30 and £25 in each section.
Last day for receiving designs: 28 October 1935.
Conditions may be obtained on application to the Manager, Timber Development Association, Ltd., 69-73 Cannon Street, E.C.4.

COMPETITION RESULTS

BIRMINGHAM: NEW MUNICIPAL OFFICES

1. Major T. C. Howitt, D.S.O. [*F.*] (Nottingham).
2. Mr. Percy Thomas O.B.E., P.R.I.B.A. (Cardiff) and Mr. Ernest Prestwich [*F.*] (Leigh, Lancs).
3. Messrs. Herbert O. Ellis and Clarke [*FF.*] (London).
4. Messrs C. J. M. Young [*A.*] and Graham Young [*L.*] (Perth, Scotland).

CHEADLE: NEW COUNCIL CHAMBER AND OFFICES

1. Messrs. Cecil F. Barker [*A.*] and W. J. Venables [*L.*] (Hanley).
2. Messrs. Hickton and White [*F.* and *A.*] (Walsall).
3. Messrs. E. J. Watkin [*F.*] and F. W. Maddox [*A.*] (Burslem).

KENDAL, WESTMORLAND: NEW COUNTY OFFICES

1. Mr. Verner O. Rees [*F.*] (London).
2. Messrs. Hughes and Bicknell [*F.* and *A.*] (Cambridge).
3. Messrs. Bradshaw Gass and Hope [*FF.*] (Bolton).

ROMFORD: NEW MUNICIPAL OFFICES

1. Messrs. H. R. Collins [*F.*] and A. E. Geens [*A.*] (Bournemouth).
2. Messrs. H. R. Collins and A. E. Geens (Alternative design).
3. Mr. J. Wallace [*L.*] (Cardiff).

Members' Column

PARTNERSHIP WANTED

F.R.I.B.A. (early forties) seeks Partnership, or senior post with prospects of same, town or country. Chief assistant 8 and 10 years respectively with two leading London architects, also small private practice. Widest experience of all kinds of work, public, domestic and ecclesiastic. Used to entire responsibility. First-class designer and draughtsman. R.A. exhibitor. Reply to Box No. 2375, c/o Secretary R.I.B.A.

ASSOCIATE with general experience in important London offices and at present engaged in private practice desires to enter into partnership with an established architect. Box No. 6835, c/o Secretary R.I.B.A.

DISSOLUTION OF PARTNERSHIP

THE partnership previously existing between A. Byrom, A.R.I.B.A., and Chas. A. Noble, A.R.I.B.A., of Bury, Lancs, has been dissolved. Mr. Noble is now in practice at 41 John Dalton Street, Manchester 2, and will be pleased to receive trade catalogues, etc.

MESSRS. WARD, HOARE AND WHEELER announce that they have dissolved partnership and will practise in future separately as the firm of Melville Seth-Ward and the firm of Hoare and Wheeler. Both firms will remain at 15 Portman Street, W.

POSITION REQUIRED

F.R.I.B.A. (45) requires position as senior draughtsman, with view to partnership. Capital available. Extremely experienced. First-class designer.—Box No. 1975, c/o Secretary R.I.B.A.

FURNISHED OFFICE TO LET

FURNISHED office, 14 feet by 12 feet 6 inches, to let. Sixty pounds per annum, inclusive of light, heating and cleaning. Secretarial assistance by arrangement. Telephone number: Museum 8628.

ASSISTANTS REQUIRED

ELDERLY Architect in South Midlands Industrial District requires Assistant (about 30) possessing good social and technical qualifications and with experience in school work, with a view to acquiring a £500 share of a practice of old standing after six months' trial on small salary, and total acquisition within a few years. Reply, in confidence, and in detail, to Box No. 5635, c/o Secretary R.I.B.A.

ARCHITECTS (old established, London) opening Suburban Office, require qualified man with £600. Salary and share profits.—Box No. 1075, c/o Secretary R.I.B.A.

CHANGE OF ADDRESS

MR. BRIAN S. ROBERTS, A.R.I.B.A., has changed his address to 3 Carmichael Court, Grove Road, Barnes, S.W.13.

MR. JOHN GREY [*F.*] and Mr. D. F. MARTIN SMITH [*A.*] have transferred their office from 48 Bloomsbury Square to 5 Bloomsbury Street, W.C.1. Tel. Museum 3412.

MR. T. WYNNE THOMAS, A.R.I.B.A., has changed his address to 58 St. Albans Road, Moseley, Birmingham 13 (Telephone No.: South 2341) where he will continue to practise under the name of Nicol and Nicol and Thomas, Chartered and Registered Architects.

Architects' and Surveyors' Approved Society

ARCHITECTS' ASSISTANTS' INSURANCE FOR THE NATIONAL HEALTH AND PENSIONS ACTS

Architects' Assistants are advised to apply for the prospectus of the Architects' and Surveyors' Approved Society, which may be obtained from the Secretary of the Society, 26 Buckingham Gate, London, S.W.1.

The Society deals with questions of insurability for the National Health and Pensions Acts (for England) under which, in general, those employed at remuneration not exceeding £250 per annum are compulsorily insurable.

In addition to the usual sickness, disablement and maternity benefits, the Society makes grants towards the cost of dental or optical treatment (including provision of spectacles).

No membership fee is payable beyond the normal Health and Pensions Insurance contribution.

The R.I.B.A. has representatives on the Committee of Management, and insured Assistants joining the Society can rely on prompt and sympathetic settlement of claims.

A.B.S. Insurance Department

PENSION AND FAMILY PROVISION SCHEME FOR ARCHITECTS

This scheme has been formulated by the Insurance Committee of the Architects' Benevolent Society and is available to all members of the R.I.B.A. and its Allied and Associated Societies.

The benefits under the scheme include:—

(1) A Member's Pension, which may be effected for units of £50 per annum, payable monthly and commencing on attainment of the anniversary of entry nearest to age 65. This pension is guaranteed over a minimum period of five years and payable thereafter for the remainder of life.

(2) The Beneficiary's Pension, payable as from the anniversary mentioned in Benefit No. 1, but to the widow (or other nominated beneficiary) if the member dies before age 65. The amount of this pension is adjusted in accordance with the disparity between the ages of the member and his wife.

(3) Family Provision. Under this benefit a payment of £50 yearly is made to the dependent from the date of death of the member prior to age 65 until attainment of the anniversary previously mentioned, after which benefit No. 2 becomes available.

Provision can be made for any number of units (of £50 per annum) up to a maximum of £500 per annum.

Pension benefit only may be secured if desired and the pension commuted for a cash sum.

Members are entitled to claim rebate of Income Tax on their periodical contributions to the scheme both in respect of pension and of family provision benefit.

Full particulars of the scheme will be sent on application to the Secretary, A.B.S. Insurance Department, 66 Portland Place, W.1.

It is desired to point out that the opinions of writers of articles and letters which appear in the R.I.B.A. JOURNAL must be taken as the individual opinions of their authors and not as representative expressions of the Institute.

Members sending remittances by postal order for subscriptions or Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A., and crossed.

R.I.B.A. JOURNAL

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